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The following document was too large to scan as one unit; therefore, it has been broken down into sections.

DOCUMENT#	HNF-5645
TITLE	Gap Analysis for DOE Order 435.1
EDMC#	0052692
SECTION	2 of 2

ATTACHMENT 6

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435.1 GAP ANALYSIS REVIEW MATRIX

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
INTRO	INTRODUCTION			
Intro. Para. 1.	1. PURPOSE. This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment.	NO ACTION REQUIRED – Statement of Purpose only		
Intro. Para. 2	2. APPLICABILITY. The requirements set forth in this Manual apply to DOE elements and contractors as set forth in DOE O 435.1, Radioactive Waste Management.	NO ACTION REQUIRED		

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Section	435.1 General Requirements	Compliance Status	Plan to Achieve Compliance	Cost
Intro. Para. 3	3. SUMMARY. This Manual is organized into four (4) chapters. Chapter I, General Requirements and Responsibilities, contains requirements and responsibilities which are applicable to all radioactive waste types and delineates responsibilities for radioactive waste management decision-making at the complex-wide and Field Element levels. Chapters II through IV contain those requirements that are applicable to high-level waste, transuranic waste, and low-level waste including the radioactive component of mixed low-level waste, respectively.	NO ACTION REQUIRED		

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Section	DOE Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
Intro. Para. 4	4. IMPLEMENTATION. The requirements of this Manual apply to all new and existing DOE radioactive waste management facilities, operations, and activities. Implementation of the requirements shall begin at the earliest possible date, and all DOE entities shall be in compliance with this directive within one year of its issuance. Compliance with this directive includes implementing the requirements or an approved implementation or corrective action plan. If compliance with this Order cannot be achieved within one year of its issuance, the Field Element Manager must request approval to extend the compliance date to no later than October 1, 2001, from the cognizant Program Secretarial Officer (PSO). Failure to implement the requirements of this directive shall, through the appropriate lines of management, result in corrective actions including, if necessary, shutdown of radioactive waste management facilities, operations, or activities until the appropriate requirements are implemented. Any of the requirements in this Manual may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, the applicable or relevant and appropriate requirements identification process for actions taken pursuant to the Department's CERCLA authorities, or by an exemption processed in accordance with the requirements of DOE M 251.1-1A, Directives System Manual.	We are assuming that the removal and/or remedial actions at legacy waste sites will not constitute a new activity and does not generate "newly-generated waste". The legacy waste sites at Hanford are not "waste management" facilities and their excavation does not constitute management of them. The activities of collection, remediation, recovery, digging, etc. of waste material is not a new activity in terms of the disposal of the material. No closure plans, performance assessments, composite analysis, or disposal authorizations are required for the collection activities. The new or existing activity is the operation of the receiving site, which is subject to 435.1 requirements. This is supported by DOE G 435.1-1, I.2.F. (5) (page I-115). For the purposes of this gap analysis, the only radioactive waste management facility operated by the ERC is the Environmental Restoration Disposal Facility (ERDF). BHI is participating on a site wide committee to develop an implementation plan for the Hanford Site. BHI will comply with the applicable portions of the implementation plan once developed.		

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Intro. Para. 5	5. REVISIONS. Systematic planning, execution, and evaluation of radioactive waste management facilities, operations, and activities will provide the basis for evaluating the adequacy of and, if necessary, revising the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. The revision process will be based on DOE P 450.4, Safety Management System Policy, and will implement continuous improvement for management of radioactive waste. The process includes: identifying the functions necessary to execute radioactive waste management responsibilities; conducting an analysis of the hazards associated with performing those functions; developing and implementing the proper controls to mitigate any associated hazards; developing and implementing a periodic assessment of work performance; and providing feedback to revise the work processes and incorporate lessons learned, as appropriate. Administrative requirements of the Order and Manual will be revised as needed to support safe and efficient waste management.	No action required.		
Intro. Para. 6	6. DEFINITIONS. Definitions for DOE M 435.1-1, Radioactive Waste Management Manual, are provided in Attachment 2.	NO ACTION REQUIRED		
Intro. Para. 7	7. REFERENCE. DOE O 435.1, Radioactive Waste Management, dated 7-09-99.	NO ACTION REQUIRED		
Intro. Para. 8	8. CONTACT. Call the Office of Waste Management at (202) 586-0370.	NO ACTION REQUIRED		

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Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CHAPTER I	GENERAL REQUIREMENTS AND RESPONSIBILITIES			
CH.I.1	1. REQUIREMENTS			
CH.I.1.A.	A. Delegation of Authority. Managers charged with responsibilities within this Manual may delegate authority for these tasks to another manager. All delegations of authority shall be documented.	NO ACTION REQUIRED		
CH.I.1.B.	B. Use of Guidance. Additional information supporting the requirements in this Manual is contained in the Implementation Guide for use with DOE M 435.1-1, Radioactive Waste Management Manual. This Guide, DOE G 435.1-1, Implementation Guide for DOE M 435.1-1, shall be reviewed when implementing the requirements of this Manual. The Guide provides additional information and acceptable methods for meeting the requirements. Other methods may be used but must ensure an adequate level of safety commensurate with the hazards associated with the work and be consistent with the radioactive waste management basis.	NO ACTION REQUIRED		
CH.I.1.C.	C. Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, Radioactive Waste Management, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.	Manual and procedure changes needed to reflect this requirement.		

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CH.I.1.D.	D. Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	DOE Order 451.1A is not in the BHI contract. For all actions taken under the CERCLA, it is DOE's policy to incorporate NEPA values into the CERCLA documentation. The CERCLA procedure used for the ERDF construction is considered equivalent to comply with 435.1.		
CH.I.1.E.	E. Requirements of Other Regulations and DOE Directives. The following requirements and DOE directives are required for all DOE radioactive waste management facilities, operations, and activities as applicable. Any of the requirements for the following Departmental directives may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, or by an exemption processed in accordance with the requirements of that directive or DOE M 251.1-1A, Directives System Manual.	No action required.		

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Section	435.1-1 Manual Requirements	Compliance Status	Plans to Achieve Compliance	Cost
CH.I.1.E. (1)	(1) Analysis of Operations Information. Data that measure the environment, safety, and health performance of radioactive waste management facilities, operations, and activities shall be identified, collected, and analyzed as required by DOE O 210.1, Performance Indicators and Analysis of Operations Information.	No action required.		
CH.I.1.E. (2)	(2) Classified Waste. Radioactive waste to which access has been limited for national security reasons and cannot be declassified shall be managed in accordance with the requirements of DOE 5632.1C, Protection and Control of Safeguards and Security Interests, and DOE 5633.3B, Control and Accountability of Nuclear Materials.	No action required.		
CH.I.1.E. (3)	(3) Conduct of Operations. Radioactive waste management facilities, operations, and activities shall be conducted in a manner based on consideration of the associated hazards. Waste management facilities, operations, and activities shall meet the requirements of DOE 5480.19, Conduct of Operations Requirements for DOE Facilities.	No action required.		
CH.I.1.E. (4)	(4) Criticality Safety. Radioactive waste management facilities, operations, and activities shall be covered by a criticality safety program in accordance with DOE O 420.1, Facility Safety.	No action expected. This Order is not in the BHI contract, however, DOE Order 5480.24, *Nuclear Criticality Safety*, is in the contract.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Comments
CH.I.1.E. (5)	(5) Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.	No action required.		
CH.I.1.E. (6)	(6) Environmental and Occurrence Reporting. Radioactive waste management facilities, operations, and activities shall meet the reporting requirements of DOE O 231.1, Environment, Safety and Health Reporting, and DOE O 232.1A, Occurrence Reporting and Processing of Operations Information.	No action expected. DOE Order 231.1, *Environment, Safety and Health Reporting* is not in the BHI contract, however, DOE Order 5484.1, *Environmental Protection, Safety & Health Protection Information Recording Requirements, C-1 to C-7* and RLIP 5484.1A, *Environmental Protection, Safety & Health Protection Information Reporting Requirements* are in the contract. DOE O 232.1A, *Occurrence Reporting and Processing of Operations Information* is in the BHI contract.		
CH.I.1.E. (7)	(7) Environmental Monitoring. Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment.	No action required.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.1.E. (8)	(8) Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity. Doe Order 425.1A, *Startup and Restart of Nuclear Facilities* is not in the BHI contract. A Hazard Analysis and a Nuclear Safety Analysis report were prepared for the ERDF per the cited DOE standards.		
CH.I.1.E. (9)	(9) Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program, including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.	DOE Order 430.1A, *Life-Cycle Asset Management* is not in the BHI contract.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.1.E. (10)	(10) Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	No action required.		
CH.I.1.E. (11)	(11) Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	The DOE Orders 460.1A, *Packaging and Transportation Safety*, and 460.2, *Departmental Materials Transportation and Packaging Management* are not in the BHI contract, however, DOE Orders 1540.2 (C-1), *Hazardous Material Packaging for Transport-Administrative Procedures*, 1540.1A, *Materials Transportation and Traffic Management*, and 5480.3, *Safety Requirements for the Packaging & Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Waste* are in the BHI contract.		
CH.I.1.E. (12)	(12) Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.	No action expected. DOE Order 414.1, *Quality Assurance* is not in the BHI contract.		
CH.I.1.E. (13)	(13) Radiation Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 835, Occupational Radiation Protection, and DOE 5400.5, Radiation Protection of the Public and the Environment.	No action required.		

Citation	435.1-01 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.1.E. (14)	(14) Records Management. Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, Information Management Program, and DOE O 414.1, Quality Assurance. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste.	DOE Orders 200.1, *Information Management Program* and 414.1, *Quality Assurance* are not in the BHI contract.		
CH.I.1.E. (15)	(15) Release of Waste Containing Residual Radioactive Material. Processes for determining and documenting that waste is suitable to be released and managed without regard to its radioactive content shall be in accordance with the criteria and requirements in DOE 5400.5, Radiation Protection of the Public and the Environment.	No action required.		
CH.I.1.E. (16)	(16) Safeguards and Security. Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, Safeguards and Security Program.	DOE Order 470.1, *Safeguards and Security Program* is not in the BHI contract.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.1.E. (17)	(17) Safety Management System. Radioactive waste management facilities, operations, and activities shall incorporate the principles of integrated safety management as described in DOE P 450.4, Safety Management System Policy, and DOE P 450.5, Line Environment, Safety and Health Oversight, and meet the requirements of the safety management systems sections of 48 CFR Chapter 9, Department of Energy Acquisition Regulations and DOE M 411.1-1, Manual of Safety Management Functions, Responsibilities, and Authorities.	DOE P 450.4, *Safety Management System Policy*, and DOE P 450.5, *Line Environment, Safety and Health Oversight* are not in the BHI contract. The RLPD 450.1, *Hanford Environment, Safety and Health Policy* is in the contract. The principles of an integrated safety management system are being incorporated into the BHI procedures based on the requirements of Provision I-15, DEAR 970.5204-2, *Integration of Environment, Safety, and Health into Work Planning and Execution* (June 1997). DOE M 411.1-1, *Manual of Safety Management Functions, Responsibilities, and Authorities* is not in the BHI contract.		
CH.I.1.E. (18)	(18) Site Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.	DOE Order 420.1, *Facility Safety* is not in the BHI contract. The ERDF was sited and designed using DOE Order 6430.1A, *General Design Criteria*, DOE Order 5820.2A, *Radioactive Waste Management*, and RL Order 4320.2C,		
CH.I.1.E. (19)	(19) Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities.	DOE Order 360.1, *Training* is not in the BHI contract. The DOE Order 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities* is in the BHI contract.		

Section	435.1 Manual Requirements	Compliance Status	Path to Achieve Compliance	Cost
CH.I.1.E. (20)	(20) Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.	No action required.		
CH.I.1.E. (21)	(21) Worker Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees.	DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees* is not in the BHI contract. The DOE Order 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities* is in the BHI contract.		
CH.I.2.	2. RESPONSIBILITIES			
CH.I.2.A.	A. Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	NO ACTION REQUIRED		
CH.I.2.B.	B. Assistant Secretary for Environmental Management. The Assistant Secretary for Environmental Management is responsible for:	NO ACTION REQUIRED		

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CH.I.2.B. (1)	Complex-Wide Radioactive Waste Management Programs. Establishing and maintaining integrated Complex-Wide Radioactive Waste Management Programs for high-level, transuranic, low-level, and mixed low-level waste. These programs shall use a systematic approach to planning, execution, and evaluation to ensure that waste generation, storage, treatment, and disposal needs are met and coordinated across the DOE complex.	NO ACTION REQUIRED		
CH.I.2.B. (2)	(2) Changes to Regulations and DOE Directives. Ensuring changes to regulations and DOE directives are reviewed and, when necessary, incorporated into revisions of this Manual to ensure the basis for safe radioactive waste management facilities, operations, and activities is maintained.	NO ACTION REQUIRED		
CH.I.2.C	C. Assistant Secretary for Environment, Safety, and Health. The Assistant Secretary for Environment, Safety and Health is responsible for providing an independent overview of DOE radioactive waste management and decommissioning programs to determine compliance with DOE environment, safety, and health requirements and applicable Environmental Protection Agency (EPA) and state regulations, including:	No ERC action required.		
CH.I.2.C (1)	Advising the Secretary of the status of Departmental compliance with the requirements of DOE O 435.1, this Manual, and applicable provisions of other DOE Orders.	No ERC action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.C (2)	(2) Conducting independent appraisals and audits of DOE waste management programs.	No ERC action required.		
CH.I.2.C (3)	(3) Reviewing site Waste Management Plans with regard to compliance with DOE environment, safety, and health requirements.	No ERC action required.		
CH.I.2.D	D. Deputy Assistant Secretary for Waste Management. The Deputy Assistant Secretary for Waste Management is responsible for:	No ERC action required.		
CH.I.2.D (1)	(1) Complex-Wide Radioactive Waste Management Program Plans. Developing, implementing, and maintaining integrated Complex-Wide Radioactive Waste Management Program Plans for high-level, transuranic, low-level, and mixed low-level waste. Each plan shall, at the DOE complex-wide level, describe the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat and dispose of radioactive waste in a manner that is protective of the public, workers, and the environment. In addition, the plans shall: (a)sent a waste management strategy that integrates waste projections and life-cycle waste management planning into complex-wide facility configuration decisions; and (b) Describe the approach to research and technology development being pursued to improve safety and/or efficiency in managing radioactive waste.	No ERC action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.D (2)	(2) Waste Management Data System. Establishing and maintaining a system to compile waste generation projection data and other information concerning radioactive waste management facilities, operations, and activities across the complex.	No ERC action required.		
CH.I.2.E	E. Deputy Assistant Secretaries for Waste Management and Environmental Restoration. The Deputy Assistant Secretary for Waste Management and the Deputy Assistant Secretary for Environmental Restoration are responsible for:	No ERC action required.		

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Citation	435.1-EM Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.E (1)	(1) Disposal. Reviewing and approving, along with EH-1, transuranic waste disposal facility performance assessments and other disposal documents as required in waste specific chapters for which DOE is responsible for making compliance determinations. Reviewing and approving performance assessments and composite analyses, or appropriate CERCLA documentation, for low-level waste disposal facilities, and issuing disposal authorization statements. (a) The Deputy Assistant Secretaries shall establish a review panel consisting of DOE personnel to review low-level waste disposal facility performance assessments and composite analyses, review appropriate CERCLA documentation, recommend low-level waste disposal facility compliance determinations to the Deputy Assistant Secretaries, and develop disposal authorization statements. (b) The Deputy Assistant Secretaries shall issue disposal authorization statements containing conditions that low-level waste disposal facilities must meet in order to operate with an approved radioactive waste management basis.	No ERC action required.		
CH.I.2.E (2)	(2) Site Closure Plans. Reviewing and approving closure plans and other closure documentation for deactivated high-level waste facilities/sites and issuing authorization for closure activities to proceed.	No ERC action required.		
CH.I.2.F	F. Field Element Managers. Field Element Managers are responsible for:	No action required.		

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CH.I.2.F. (1)	(1) Site-Wide Radioactive Waste Management Programs. Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	No action required.		
CH.I.2.F. (2)	(2) Radioactive Waste Management Basis. Ensuring a radioactive waste management basis is developed and maintained for each DOE radioactive waste management facility, operation, and activity; and ensuring review and approval of the basis before operations begin. The Radioactive Waste Management Basis shall:	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		
CH.I.2.F. (2)(a)	Reference or define the conditions under which the facility may operate based on the radioactive waste management documentation;	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		
CH.I.2.F. (2)(b)	Include the applicable elements identified in the specific waste-type chapters of this Manual; and	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		

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CH.I.2.F. (2)(c)	(c) Be developed using the graded approach process.	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		
CH.I.2.F. (3)	(3) Waste Minimization and Pollution Prevention. Ensuring implementation of waste minimization and pollution prevention programs.	No ERC action required.		
CH.I.2.F. (4)	(4) Approval of Exemptions for Use of Non-DOE Facilities. DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. If DOE capabilities are not practical or cost effective, exemptions may be approved to allow use of non-DOE facilities for the storage, treatment, or disposal of DOE radioactive waste based on the following requirements:	No ERC action required.		
CH.I.2.F. (4)(a)	Such non-DOE facilities shall: Comply with applicable Federal, State, and local requirements; Have the necessary permit(s), license(s), and approval(s) for the specific waste(s); and Be determined by the Field Element Manager to be acceptable based on a review conducted annually by DOE.	No ERC action required.		

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Citation	Listed Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (4)(b)	(b) Exemptions for the use of non-DOE facilities shall be documented to be cost effective and in the best interest of DOE, including consideration of alternatives for on-site disposal, an alternative DOE site, and available non-DOE facilities; consideration of life-cycle cost and potential liability; and protection of public health and the environment.	No action required.		
CH.I.2.F. (4)(c)	(c) DOE waste shall be sufficiently characterized and certified to meet the facility's waste acceptance criteria.	No action required.		
CH.I.2.F. (4)(d)	(d) Appropriate National Environmental Policy Act (NEPA) review must be completed. For actions taken under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), it is DOE's policy to incorporate NEPA values into the CERCLA documentation.	No action required.		
CH.I.2.F. (4)(e)	(e) Headquarters shall be notified of any exemption allowing use of a non-DOE facility and the Office of the Assistant Secretary for Environment, Safety and Health (EH-1) shall be consulted prior to the exemption being executed.	No action required.		
CH.I.2.F. (4)(f)	(f) Host States and State Compacts where non-DOE facilities are located shall be consulted prior to approval of an exemption to use such facilities and notified prior to shipments being made.	No action required.		

Section	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (5)	(5) Environmental Restoration, Decommissioning, and Other Cleanup Waste. Ensuring the management and disposal of radioactive waste resulting from environmental restoration activities, including decommissioning, meet the substantive requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. Environmental restoration activities using the CERCLA process (in accordance with Executive Order 12580) may demonstrate compliance with the substantive requirements of DOE O 435.1, Radioactive Waste Management, and this Manual (including the Performance Assessment and performance objectives, as well as the Composite Analysis) through the CERCLA process. However, compliance with all substantive requirements of DOE O 435.1 not met through the CERCLA process must be demonstrated. Environmental restoration activities which will result in the off-site management and disposal of radioactive waste must meet the applicable requirements of DOE O 435.1, Radioactive Waste Management, and this Manual for the management and disposal of those off-site wastes. Field Elements performing environmental restoration activities involving development and management of radioactive waste disposal facilities under the CERCLA process shall:	We are assuming that the removal and/or remedial actions at legacy waste sites will not constitute a new activity. The legacy waste sites at Hanford are not "waste management" facilities and their excavation does not constitute management of them. The activities of collection, remediation, recovery, digging, etc. of waste material is not a new activity in terms of the disposal of the material. No closure plans, performance assessments, composite analysis, or disposal authorizations are required for the collection activities. The new or existing activity is the operation of the receiving site (ERDF), which is subject to 435.1 requirements. For the purposes of this gap analysis, the only radioactive waste management facility operated by the ERC is the Environmental Restoration Disposal Facility (ERDF). An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity. The requirement to follow the substantive portions of DOE Order 435.1 undercuts the separation of DOE actions under CERCLA from State procedural controls under RCRA and State hazardous waste law. DOE's insistence that its DOE Order 435.1 substantive procedure be satisfied may allow the State to insist that its officers give formal assent to RCRA equivalent processes before treatment, storage or disposal can be conducted under CERCLA. This produces a gap between not only the DOE Order 435.1 substantive requirements but also all State preferences. These could include air permitting processes, including approval of air pollution control boards, for all CERCLA actions that result in air emissions. It is not possible to precisely determine the gaps involved with this requirement at this time.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (5)(a)	(a) Submit certification to the Deputy Assistant Secretary for Environmental Restoration that compliance with the substantive requirements of DOE O 435.1 have been met through application of the CERCLA process; and	A crosswalk to support the certification for the ERDF has not been prepared. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		
CH.I.2.F. (5)(b)	(b) Submit the decision document, such as the Record of Decision, or any other document that serves as the authorization to dispose, to the Deputy Assistant Secretary for Environmental Restoration for approval.	Amendments to the ERDF Record of Decision will need to be submitted if they occur.		
CH.I.2.F. (6)	(6) Radioactive Waste Acceptance Requirements. Ensuring development, review, approval, and implementation of the radioactive waste acceptance requirements for facilities that receive waste for storage, treatment, or disposal. Radioactive waste acceptance requirements shall establish the facility's requirements for the receipt, evaluation, and acceptance of waste.	No action required.		

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CH.I.2.F. (7)	(7) Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	No action required. We are assuming that the removal and/or remedial actions at legacy waste sites is not waste generation. The legacy waste sites at Hanford are not "waste management" facilities and their excavation does not constitute generation of waste. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger some generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.I.2.F. (8)	(8) Closure Plans. Ensuring development, review, approval, and implementation of closure plans for radioactive waste management facilities in accordance with the applicable requirements in the waste-type chapters of this Manual.	A closure plan has not been developed for the ERDF.		
CH.I.2.F. (9)	(9) Defense-In-Depth. Ensuring defense-in-depth principles are incorporated where potential uncertainties or vulnerabilities warrant their use when reviewing and approving radioactive waste management activities and documents. These principles advocate the use of multiple levels of engineered and administrative controls to provide protection to the public, workers, and the environment.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (10)	(10) Oversight. Ensuring oversight of radioactive waste management facilities, operations, and activities is conducted. Oversight shall ensure radioactive waste management program activities are conducted in accordance with a radioactive waste management basis and meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		
CH.I.2.F. (11)	(11) Training and Qualification. Ensuring a training and qualification program is implemented for designated radioactive waste management program personnel, and the training is commensurate with job duties and responsibilities. Only those personnel who have been trained and qualified shall design or operate safety (safety class and safety significant) structures, systems, and components.	No action required.		
CH.I.2.F. (12)	(12) As Low As Reasonably Achievable (ALARA). Ensuring ALARA principles for radiation protection are incorporated when reviewing and approving radioactive waste management activities.	No action required.		
CH.I.2.F. (13)	(13) Storage. Ensuring all radioactive waste is stored in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis, and that the integrity of waste storage is maintained for the expected time of storage and does not compromise meeting the disposal performance objectives for protection of the public and environment when the waste is disposed.	A closure plan has not been developed for the ERDF as part of the radioactive waste management basis. An authorization basis as part of the radioactive waste management basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (14)	(14) Treatment. Ensuring all radioactive waste requiring treatment is treated in a manner that protects the public, workers, and the environment and in accordance with a radioactive waste management basis.	A closure plan has not been developed for the ERDF as part of the radioactive waste management basis. An authorization basis as part of the radioactive waste management basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		
CH.I.2.F. (15)	(15) Disposal. Ensuring radioactive waste is disposed in a manner that protects the public, workers, and the environment and in accordance with a radioactive waste management basis. Reviewing specific transuranic or low-level waste documentation including the performance assessment and composite analysis, or appropriate CERCLA documentation, prior to forwarding them to Headquarters for approval, and obtaining and ensuring the facility is operated in accordance with the disposal authorization statement. Conducting performance assessment and composite analysis maintenance.	An authorization basis as part of the radioactive waste management basis has not been obtained for the ERDF. A Remedial Investigation Feasibility Study has been completed for the ERDF which may be deemed as appropriate documentation for the composite analysis and the performance assessment. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity. Performance assessment and composite analysis maintenance is not done.		
CH.I.2.F. (16)	(16) Monitoring. Ensuring monitoring is conducted for all radioactive waste management facilities as required. Ensuring that disposal facilities are monitored, as appropriate, for compliance with conditions of the disposal authorization statement.	A crosswalk to support the certification for the ERDF has not been prepared. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (17)	(17) Material and Waste Declassification for Waste Management. Ensuring, to the extent practical, radioactive material and waste generated under a program that is classified for national security reasons is declassified or rendered suitable for unclassified radioactive waste management.	No action required.		
CH.I.2.F. (18)	(18) Waste Incidental to Reprocessing. Ensuring that waste incidental to reprocessing determinations are made by either the "citation" or "evaluation" process described in Chapter II of this Manual. Ensuring consultation and coordination with the Office of Environmental Management for waste determined to be incidental to reprocessing through the "evaluation" process.	No action required.		
CH.I.2.F. (19)	(19) Waste With No Identified Path to Disposal. Ensuring a process is developed and implemented for identifying the generation of radioactive waste with no identified path to disposal, and reviewing and approving conditions under which radioactive waste with no identified path to disposal may be generated. Headquarters shall be notified of the decisions to generate a waste with no identified path to disposal.	No action required. The ERC does not generate radioactive waste other than incidental wastes.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.I.2.F. (20)	(20) Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	Requires manuals to be updated to reflect the appropriate requirements of DOE Order 435.1.		
CH.I.2.G.	G. All Personnel. All personnel are responsible for:			
CH.I.2.G. (1)	(1) Problem Identification. Identifying and reporting radioactive waste management facilities, operations, or activities that do not meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual, or that pose a threat to the safety of the public, workers, or the environment.	No action required.		
CH.I.2.G. (2)	(2) Shutdown or Curtailment of Activities. Stopping or curtailing work, through the appropriate level of management, to prohibit continuation of conditions or activities which pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	No action required.		
CHAPTER II	HIGH-LEVEL WASTE REQUIREMENTS			

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.A.	A. Definition of High-Level Waste. High-level waste is the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation.	Cell 4 in the B-Plant contains three drums with Cs-137 and Sr-90 in concentrations greater than NRC Class C limits. Materials greater than Class 3 limits may require geologic disposal. BHI may apply to RL for an exemption allowing these drums to be disposed in the ERDF as LLW. No action will be required if the exemption is granted.		
CH.II.B.	B. Waste Incidental to Reprocessing. Waste resulting from reprocessing spent nuclear fuel that is determined to be incidental to reprocessing is not high-level waste, and shall be managed under DOE's regulatory authority in accordance with the requirements for transuranic waste or low-level waste, as appropriate. When determining whether spent nuclear fuel reprocessing plant wastes shall be managed as another waste type or as high-level waste, either the citation or evaluation process described below shall be used:	No action required if exemption granted (CH.II.A).		
CH.II.B. (1)	(1) Citation. Waste incidental to reprocessing by citation includes spent nuclear fuel reprocessing plant wastes that meet the description included in the Notice of Proposed Rulemaking (34 FR 8712) for proposed Appendix D, 10 CFR Part 50, Paragraphs 6 and 7. These radioactive wastes are the result of reprocessing plant operations, such as, but not limited to: contaminated job wastes including laboratory items such as clothing, tools, and equipment.	No action required if exemption granted (CH.II.A).		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.B. (2)	Evaluation. Determinations that any waste is incidental to reprocessing by the evaluation process shall be developed under good record-keeping practices, with an adequate quality assurance process, and shall be documented to support the determinations. Such wastes may include, but are not limited to, spent nuclear fuel reprocessing plant wastes that:	No action required if exemption granted (CH.II.A).		
CH.II.B. (2)(a)	(a) Will be managed as low-level waste and meet the following criteria: Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and Will be managed to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C, Performance Objectives; and 3. Are to be managed, pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, and in accordance with the provisions of Chapter IV of this Manual, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C low-level waste as set out in 10 CFR 61.55, Waste Classification; or will meet alternative requirements for waste classification and characterization as DOE may authorize.	No action required if exemption granted (CH.II.A).		

Section	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.B. (2)(b)	(b) Will be managed as transuranic waste and meet the following criteria: Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and Will be incorporated in a solid physical form and meet alternative requirements for waste classification and characteristics, as DOE may authorize; and Are managed pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, in accordance with the provisions of Chapter III of this Manual, as appropriate.	No action required if exemption granted (CH.II.A).		
CH.II.C.	C. Management of Specific Wastes. The following provide for management of specific wastes as high-level waste in accordance with the requirements in this Chapter:	No action required if exemption granted (CH.II.A).		
CH.II.C. (1)	(1) Mixed High-Level Waste. Unless demonstrated otherwise, all high-level waste shall be considered mixed waste and is subject to the requirements of both the Atomic Energy Act of 1954, as amended, the Resource Conservation and Recovery Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required if exemption granted (CH.II.A).		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.C. (2)	(2) TSCA-Regulated Waste. High-level waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.D.	D. Complex-Wide High-Level Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.E.	E. Site-Wide Radioactive Waste Management Program. In addition to the items in Chapter I of this Manual, documentation of the Site-Wide Radioactive Waste Management Program shall include a description of the High-Level Waste Systems Engineering Management Program to support decision-making related to nuclear safety, including high-level waste requirements analysis, functional analysis and allocation, identification of alternatives, and alternative selection and system control.	No action required if exemption granted (CH.II.A).		
CH.II.F.	F. Radioactive Waste Management Basis. High-level waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis:	No action required if exemption granted (CH.II.A).		

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CH.II.F. (1)	(1) Generators. The waste certification program.	No action required if exemption granted (CH.II.A).		
CH.II.F. (2)	Pretreatment and Treatment Facilities. The waste acceptance requirements and waste certification program.	No action required if exemption granted (CH.II.A).		
CH.II.F. (3)	(3) Storage Facilities. The waste acceptance requirements and the waste certification program.	No action required if exemption granted (CH.II.A).		
CH.II.G.	G. Quality Assurance Program. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.G. (1)	(1) Product Quality. The requirements of RW-0333P, Quality Assurance Requirements and Description, shall apply to those high-level waste items and activities important to waste acceptance/product quality.	No action required if exemption granted (CH.II.A).		
CH.II.G. (2)	(2) Audits and Assessments. The evaluation and assessment requirements of RW 0333P, Quality Assurance Requirements Document and Description, and associated implementing procedures shall be met for high-level waste acceptance and product quality activities, in addition to the assessment requirements of other DOE directives and requirements identified in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.H.	H. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		

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Citation	Base Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.H. (1)	(1) Contingency Storage. For off-normal or emergency situations involving high-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of waste contained in any one storage vessel, pretreatment facility, or treatment facility. Tanks or other facilities that are designated for high-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet all the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.H. (2)	(2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.I.	I. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.I. (1)	(1)Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	No action required if exemption granted (CH.II.A).		
CH.II.I. (2)	(2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	No action required if exemption granted (CH.II.A).		

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CH.II.J.	J. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.J. (1)	(1). Technical and Administrative. Waste acceptance requirements for all high-level waste storage, pretreatment, or treatment facilities, operations, and activities shall specify, at a minimum, the following:	No action required if exemption granted (CH.II.A).		
CH.II.J. (1)(a)	(a) Allowable activities and/or concentrations of specific radionuclides;	No action required if exemption granted (CH.II.A).		
CH.II.J. (1)(b)	(b) Acceptable waste form that ensures the chemical and physical stability of the waste under conditions that might be encountered during transfer, storage, pretreatment, or treatment;	No action required if exemption granted (CH.II.A).		
CH.II.J. (1)(c)	(c) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved; and	No action required if exemption granted (CH.II.A).		
CH.II.J. (1)(d)	(d) Pretreatment, treatment, storage, packaging, and other operations shall be designed and implemented in a manner that will ultimately comply with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	No action required if exemption granted (CH.II.A).		

Section	435.1 Manual Requirement	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.J. (2)	(2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that the technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	No action required if exemption granted (CH.II.A).		
CH.II.K.	K. Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.K. (1)	(1). Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all high-level waste streams.	No action required if exemption granted (CH.II.A).		
CH.II.K. (2)	(2). Waste With No Identified Path to Disposal. High-level waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste (compliance with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms).	No action required if exemption granted (CH.II.A).		
CH.II.L.	L. Waste Characterization. High-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	No action required if exemption granted (CH.II.A).		

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CH.II.L. (1)	(1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data.	No action required if exemption granted (CH.II.A).		
CH.II.L. (2)	(2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste:	No action required if exemption granted (CH.II.A).		
CH.II.L. (2)(a)	(a) Physical and chemical characteristics;	No action required if exemption granted (CH.II.A).		
CH.II.L. (2)(b)	(b) Volume, including the waste and any solidification media;	No action required if exemption granted (CH.II.A).		
CH.II.L. (2)(c)	(c) Radionuclides or source information sufficient to describe the approximate radionuclide content of the waste; and	No action required if exemption granted (CH.II.A).		
CH.II.L. (2)(d)	(d) Any other information which may be needed to demonstrate compliance with the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	No action required if exemption granted (CH.II.A).		
CH.II.L. (3)	(3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.	No action required if exemption granted (CH.II.A).		

Section	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.M.	M. Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving high-level waste for storage, pretreatment, treatment, and disposal are met.	No action required if exemption granted (CH.II.A).		
CH.II.M. (1)	(1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period.	No action required if exemption granted (CH.II.A).		
CH.II.M. (2)	(2) Certification Before Transfer. High-level waste shall be certified as meeting the waste acceptance requirements before it is transferred to the facility receiving the waste.	No action required if exemption granted (CH.II.A).		
CH.II.M. (3)	(3) Maintaining Certification. High-level waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, pretreatment, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	No action required if exemption granted (CH.II.A).		
CH.II.N.	N. Waste Transfer. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	[illegible]
CH.II.N. (1)	(1) Authorization. High-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	No action required if exemption granted (CH.II.A).		
CH.II.N. (2)	(2) Data. Waste characterization data and generation, storage, pretreatment, treatment, and transportation information for high-level waste shall be transferred with or be traceable to the waste.	No action required if exemption granted (CH.II.A).		
CH.II.N. (3)	(3) Records and Transfer Reporting. The records and transfer requirements for canistered high-level waste forms shall comply with DOE/EM-0093, Waste Acceptance Product Specification for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	No action required if exemption granted (CH.II.A).		
CH.II.O.	O. Packaging and Transportation. The following requirement is in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.O. (1)	(1) Canistered Waste Form. Immobilized high-level waste shall meet the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	No action required if exemption granted (CH.II.A).		
CH.II.P.	P. Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.P. (1)	(1). Site Evaluation. Proposed locations for high-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses.	No action required if exemption granted (CH.II.A).		
CH.II.P. (1)(a)	(a) Each site proposed for a new high-level waste facility or expansion of an existing high-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities.	No action required if exemption granted (CH.II.A).		
CH.II.P. (1)(b)	(b) Proposed sites with environmental characteristics, geotechnical characteristics, or human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)	(2) Facility Design. The following facility design requirements, at a minimum, apply:	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(a)	(a) Safety (Safety Class and Safety-Significant) Structures, Systems, and Components. Safety structures, systems, and components for high-level waste storage, pretreatment, and treatment facilities shall be designated and designed consistent with the provisions of DOE O 420.1, Facility Safety; DOE 5480.22, Technical Safety Requirements; and DOE 5480.23, Nuclear Safety Analysis Reports.	No action required if exemption granted (CH.II.A).		

Section	435.1 Linear Requirements	Compliance Status	Demonstrate Compliance	Cost
CH.II.P. (2)(b)	(b) Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components: Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(c)	(c) Lifting Devices. The design of hoisting and rigging devices shall comply with the following specific requirements. Lifting devices that are designated as safety class or safety significant shall be designed to prevent free fall of loads. Loading and unloading systems for lifting devices that are designated as safety class or safety significant shall be designed with a reliable system of interlocks that will fail safely upon malfunction.	No action required if exemption granted (CH.II.A).		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.P. (2)(d)	(d) Ventilation. Design of high-level waste pretreatment, treatment, and storage facilities shall include ventilation through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the applicable requirements. When conditions exist for generating gases in flammable and explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(e)	(e) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing high-level waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described.	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(f)	(f) Maintenance Exposure Reduction. Remote maintenance features and other appropriate techniques to maintain as low as reasonably achievable (ALARA) personnel exposures shall be incorporated into each high-level waste facility.	No action required if exemption granted (CH.II.A).		

Section	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.P. (2)(g)	(g) Facilities for Receipt and Retrieval of High-Level Waste. Designs for storage facilities shall incorporate features to facilitate retrieval capability. High-level waste receipt and retrieval systems shall be designed to complement the existing storage facilities for safe storage and transfer of high-level waste.	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(h)	(h) Structural Integrity. Designs for new tanks shall contribute to the confinement requirement at Section II.P. (2)(b) of this Manual by: Incorporating features to avoid critical degradation modes at the proposed site where practicable, or minimize degradation rates for the critical modes; and Incorporating features to facilitate execution of the Structural Integrity Program required by Section II.Q. (2) of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(i)	(i) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of high-level waste treatment storage, pretreatment, and treatment facilities to provide volume inventory data and to prevent spills, leaks and overflows from tanks or confinement systems.	No action required if exemption granted (CH.II.A).		
CH.II.P. (2)(j)	(j) Volume Monitoring Systems. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of high-level waste storage, pretreatment, and treatment facilities to provide rapid detection of failed confinement and/or other abnormal conditions.	No action required if exemption granted (CH.II.A).		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.Q.	Q. Storage. The following requirements are in addition to those in Chapter I of this Manual and also apply to facilities intended for management of high-level waste awaiting pretreatment, treatment or disposal, unless stated otherwise.	No action required if exemption granted (CH.II.A).		
CH.II.Q. (1)	(1) Operation of Confinement Systems.	No action required if exemption granted (CH.II.A).		
CH.II.Q. (1)(a)	(a) Confinement systems shall be operated and maintained so as to preserve the design basis.	No action required if exemption granted (CH.II.A).		
CH.II.Q. (1)(b)	(b) Secondary confinement systems, where provided, shall be operated to prevent any migration of wastes or accumulated liquid out of the waste confinement systems.	No action required if exemption granted (CH.II.A).		
CH.II.Q. (2)	(2) Structural Integrity Program.	No action required if exemption granted (CH.II.A).		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.Q. (2)(a)	(a) Leak-Tight Tanks In-Service. A structural integrity program shall be developed for each high-level waste storage tank site to verify the structural integrity and service life of each tank to meet operational requirements for storage capacity. The program shall be capable of: Verifying the current leak-tightness and structural strength of each tank in service; Identifying corrosion, fatigue, and other critical degradation modes; Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures; Providing credible projections as to when structural integrity of each tank can no longer be assured; and Identifying the additional controls necessary to maintain an acceptable operating envelope.	No action required if exemption granted (CH.II.A).		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.Q. (2)(b)	(b) In-Service Tanks that Have Leaked or Are Suspect. For each high-level waste storage tank in-service that is known to have leaked, or is suspect, a modified structural integrity program shall be developed and implemented to identify the safe operational envelope. The modified program shall be capable of: Verifying the structural strength of each tank in-service which has leaked or is suspect; Identifying corrosion, fatigue and other critical degradation modes; Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures; Determining which of the tanks that have leaked or are suspect may remain in service by identifying an acceptable safe operating envelope; Providing credible projections as to when the acceptable safe operational envelope can no longer be assured; and Identifying the additional controls necessary to maintain the acceptable safe operational envelope. When physical activities, as part of a structural integrity program, pose additional vulnerabilities, alternative measures shall be implemented to provide an acceptable storage operational envelope.	No action required if exemption granted (CH.II.A).		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.Q. (2)(c)	(c) Other Storage Components. The structural integrity of other storage components shall be verified to assure leak tightness and structural strength.	No action required if exemption granted (CH.II.A).		
CH.II.Q. (3)	(3) Canistered Waste Form Storage. Canisters of immobilized high-level waste awaiting shipment to a repository shall be:	No action required if exemption granted (CH.II.A).		
CH.II.Q. (3)(a)	(a) Stored in a suitable facility;	No action required if exemption granted (CH.II.A).		
CH.II.Q. (3)(b)	(b) Segregated and clearly identified to avoid commingling with low-level, mixed low-level, or transuranic wastes; and	No action required if exemption granted (CH.II.A).		
CH.II.Q. (3)(c)	(c) Monitored to ensure that storage conditions are consistent with DOE/EM 0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351, Waste Acceptance System Requirements Document, for non-vitrified immobilized high-level waste. Facilities and operating procedures for storage of vitrified high-level waste shall maintain the integrity of the canistered waste form.	No action required if exemption granted (CH.II.A).		
CH.II.R.	R. Treatment. Treatment shall be designed and implemented in a manner that will ultimately comply with DOE/EM 0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	No action required if exemption granted (CH.II.A).		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.S.	S. Disposal. Disposal of high-level waste must be in accordance with the provisions of the Atomic Energy Act of 1954, as amended, the Nuclear Waste Policy Act of 1982, as amended, or any other applicable statutes.	No action required if exemption granted (CH.II.A).		
CH.II.T.	T. Monitoring. High-level waste pretreatment, treatment, storage, and transportation facilities shall be monitored for chemical, physical, radiological, structural, and other changes that could indicate failure of system confinement, integrity, or safety, and which could lead to abnormal events or accidents. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, flammable or explosive mixtures of gases, level and/or waste volume, and significant waste chemistry parameters for non-immobilized high-level waste. Facility monitoring programs shall also include physical inspections to verify that control systems have not failed.	No action required if exemption granted (CH.II.A).		
CH.II.U.	U. Closure. The following requirements for closure of deactivated high-level waste facilities and sites are in addition to those in Chapter I of this Manual.	No action required if exemption granted (CH.II.A).		
CH.II.U. (1)	(1) Decommissioning. Deactivated high-level waste facilities/sites shall meet the decommissioning requirements of DOE O 430.1A, Life-Cycle Asset Management and the requirements of DOE 5400.5, Radiation Protection of the Public and the Environment, for release; or	No action required if exemption granted (CH.II.A).		

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CH.II.U. (2)	(2) CERCLA Process. Deactivated high-level waste facilities/sites shall be closed in accordance with the CERCLA process as described in Section I.2.F. (5); or	No action required if exemption granted (CH.II.A).		
CH.II.U. (3)	(3) Closure. Deactivated high-level waste facilities/sites shall be closed in accordance with an approved closure plan as specified below. Residual radioactive waste present in facilities to be closed shall satisfy the waste incidental to reprocessing requirements of this Chapter.	No action required if exemption granted (CH.II.A).		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.II.U. (3)(a)	(a) Facility/Site Closure Plans. A closure plan shall be developed for each deactivated high-level waste facility/site being closed that defines the approach and plans by which closure of each facility within the site is to be accomplished. This plan shall be completed and approved prior to the initiation of physical closure activities, and updated periodically to reflect current analysis and status of individual facility closure actions. The plan shall include, at a minimum, the following elements: Identification of the closure standards/performance objectives to be applied from Chapter III or IV, as appropriate; A strategy for allocating waste disposal facility performance objectives from the closure standards identified in the closure plan among the facilities/units to be closed at the site; An assessment of the projected performance of each unit to be closed relative to the performance objectives allocated to each unit under the closure plan; An assessment of the projected composite performance of all units to be closed at the site relative to the performance objectives and closure standards identified in the closure plan; and Any other relevant closure controls including a monitoring plan, institutional controls, and land use limitations to be maintained in the closure activity.	No action required if exemption granted (CH.II.A).		

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CH.II.V.	V. Specific Operations. Specific requirements are provided for the operation of lifting devices and facilities for receipt and retrieval of high-level waste.	No action required if exemption granted (CH.II.A).		
CH.II.V. (1)	(1) Operation of Lifting Devices. Hoisting and rigging activities shall be conducted in accordance with the guidance provided in the DOE Standard "Hoisting and Rigging" (DOE-STD-1090-96).	No action required if exemption granted (CH.II.A).		
CH.II.V. (2)	(2) Operation of Facilities for Receipt and Retrieval of High-Level Waste. High-level waste receipt and retrieval systems shall be operated and maintained consistent with high-level waste system features incorporated in the facilities. Strategies for retrieval of waste shall be analyzed to ensure that structural and radiological impacts are consistent with the facility design basis._ (This page intentionally left blank.)_CHAPTER III	No action required if exemption granted (CH.II.A).		
CHAPTER III		TRANSURANIC WASTE REQUIREMENTS		
CH.III.A.	A. Definition of Transuranic Waste. Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for:	DEFINITION – NO ACTION REQUIRED		
CH.III.A. (1)	(1) High-level radioactive waste;	No action required.		

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CH.III.A. (2)	(2) Waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or	No action required.		
CH.III.A. (3)	(3) Waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.	No action required.		
CH.III.B.	B. Management of Specific Wastes. The following provide for management of specific wastes as transuranic waste in accordance with the requirements in this Chapter:	No action required.		
CH.III.B. (1)	(1) Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		
CH.III.B. (2)	(2) TSCA-Regulated Waste. Transuranic waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.B. (3)	(3) Pre-1970 Transuranic Waste. Transuranic waste disposed of prior to implementation of the 1970 Atomic Energy Commission Immediate Action Directive regarding retrievable storage of transuranic waste is not subject to the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		
CH.III.C.	C. Complex-Wide Transuranic Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	No action required.		
CH.III.D.	D. Radioactive Waste Management Basis. Transuranic waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis:	No action required.		
CH.III.D. (1)	(1) Generators. The waste certification program.	No action required.		
CH.III.D. (2)	(2) Treatment Facilities. The waste acceptance requirements and the waste certification program.	No action required.		
CH.III.D. (3)	(3) Storage Facilities. The waste acceptance requirements and the waste certification program.	No action required.		
CH.III.D. (4)	(4) Disposal Facilities. The performance assessment, disposal authorization statement, waste acceptance requirements, and monitoring plan.	No action required.		

Citation	435.1 (Manual) Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.E.	E. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.E. (1)	(1) Contingency Storage. For off-normal or emergency situations involving liquid transuranic waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of liquid contained in any one storage tank or treatment facility. Tanks or other facilities that are designated transuranic waste contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		
CH.III.E. (2)	(2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of liquid waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		
CH.III.F.	F. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.F. (1)	(1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	No action required.		
CH.III.F. (2)	(2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.G.	G. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.G. (1)	(1) Technical and Administrative. Waste acceptance requirements for all transuranic waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following:	No action required.		
CH.III.G. (1)(a)	(a) Allowable activities and/or concentrations of specific radionuclides;	No action required.		
CH.III.G. (1)(b)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal;	No action required.		
CH.III.G. (1)(c)	(c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance;	No action required.		
CH.III.G. (1)(d)	(d) Requirement to identify transuranic waste as defense or non-defense, and limitations on acceptance; and	No action required.		
CH.III.G. (1)(e)	(e) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.G. (2)	(2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	No action required.		
CH.III.H.	H. Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.H. (1)	(1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all transuranic waste streams.	No action required.		
CH.III.H. (2)	(2) Waste With No Identified Path to Disposal. Transuranic waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address:	No action required.		
CH.III.H. (2)(a)	(a) Programmatic need to generate the waste;	No action required.		
CH.III.H. (2)(b)	(b) Characteristics and issues preventing the disposal of the waste;	No action required.		
CH.III.H. (2)(c)	(c) Safe storage of the waste until disposal can be achieved; and	No action required.		
CH.III.H. (2)(d)	(d) Activities and plans for achieving final disposal of the			
CH.III.I	I. Waste Characterization. Transuranic waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	No action required.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.I. (1)	(1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data.	No action required.		
CH.III.I. (2)	(2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste:	No action required.		
CH.III.I. (2)(a)	(a) Physical and chemical characteristics;	No action required.		
CH.III.I. (2)(b)	(b) Volume, including the waste and any stabilization or absorbent media;	No action required.		
CH.III.I. (2)(c)	(c) Weight of the container and contents;	No action required.		
CH.III.I. (2)(d)	(d) Identities, activities, and concentrations of major radionuclides;	No action required.		
CH.III.I. (2)(e)	(e) Characterization date;	No action required.		
CH.III.I. (2)(f)	(f) Generating source;	No action required.		
CH.III.I. (2)(g)	(g) Packaging date; and	No action required.		
CH.III.I. (2)(h)	(h) Any other information which may be needed to prepare and maintain the disposal facility performance assessment or demonstrate compliance with applicable performance objectives.	No action required.		
CH.III.J.	J. Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.	No action required.		

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CH.III.J. (1)	(1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period..	No action required.		
CH.III.J. (2)	(2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste	No action required.		
CH.III.J. (3)	(3) Maintaining Certification. Transuranic waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	No action required.		
CH.III.K.	K. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.K. (1)	(1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	No action required.		

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CH.III.K. (2)	(2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	No action required.		
CH.III.L.	L. Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.L. (1)	(1) Packaging. (a) Transuranic waste shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste is removed from the container. (b) Vents or other mechanisms to prevent pressurization of containers or generation of flammable or explosive concentrations of gases shall be installed on containers of newly-generated waste at the time the waste is packaged. Containers of currently stored waste shall meet this requirement as soon as practical unless analyses demonstrate that the waste can otherwise be managed safely. (c) When transuranic waste is packaged, defense waste shall be packaged separately from non-defense waste, if feasible. (d) Containers of transuranic waste shall be marked such that their contents can be identified.	No action required.		
CH.III.L. (2)	(2) Transportation. To the extent practical, the volume of waste and number of transuranic waste shipments shall be minimized.	No action required.		
CH.III.M.	M. Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		

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CH.III.M. (1)	(1) Site Evaluation. Proposed locations for transuranic waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new transuranic waste facility or expansion of an existing transuranic waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities. (b) Proposed sites with environmental characteristics, geotechnical characteristics, and human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	No action required.		
CH.III.M. (2)	(2) Facility Design. The following facility requirements and general design criteria, at a minimum, apply:	No action required.		
CH.III.M. (2)(a)	(a) Confinement. Transuranic waste systems and components shall be designed to maintain waste confinement.	No action required.		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.M. (2)(b)	(b) Ventilation. 1. Design of transuranic waste treatment and storage facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations in treatment or storage facilities, ventilation or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	No action required.		
CH.III.M. (2)(c)	(c) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing transuranic waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described.	No action required.		
CH.III.M. (2)(d)	(d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of transuranic waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.M. (2)(e)	(e) Monitoring. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of transuranic waste storage, treatment, and disposal facilities to provide rapid identification of failed confinement and/or other abnormal conditions.	No action required.		
CH.III.N.	N. Storage. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.N. (1)	(1) Storage Prohibitions. Transuranic waste in storage shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable.	No action required.		
CH.III.N. (2)	(2) Storage Integrity. Transuranic waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure.	No action required.		
CH.III.N. (3)	(3) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of transuranic waste to ensure container integrity is not compromised.	No action required.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.III.N. (4)	(4) Retrievable Earthen-Covered Storage. Plans for the removal of transuranic waste from retrievable earthen-covered storage facilities shall be established and maintained. Prior to commencing waste retrieval activities, each waste storage site shall be evaluated to determine relevant information on types, quantities, and location of radioactive and hazardous chemicals as necessary to protect workers during the retrieval process.	No action required.		
CH.III.O.	O. Treatment. Transuranic waste shall be treated as necessary to meet the waste acceptance requirements of the facility receiving the waste for storage or disposal.	No action required.		
CH.III.P.	P. Disposal. Transuranic waste shall be disposed in accordance with the requirements of 40 CFR Part 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.	No action required.		
CH.III.Q.	Q. Monitoring. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.III.Q. (1)	(1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed.	No action required.		

Section	435.1 Manual Requirements	Compliance Status	Plan to achieve compliance	Resp
CH.III.Q. (2)	(2) Stored Wastes. All transuranic wastes in storage shall be monitored, as prescribed by the appropriate facility safety analysis, to ensure the wastes are maintained in safe condition.	No action required.		
CH.III.Q. (3)	(3) Liquid Waste Storage Facilities. For facilities storing liquid transuranic waste, the following shall also be monitored: liquid level and/or waste volume, and significant waste chemistry parameters	No action required.		
CHAPTER IV		LOW-LEVEL WASTE REQUIREMENTS		
CH.IV.A.	A. Definition of Low-Level Waste. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e. (2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material.	No action required.		
CH.IV.B.	B. Management of Specific Wastes. The following provide for management of specific wastes as low-level waste in accordance with the requirements in this Chapter:	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.B. (1)	(1) Mixed Low-Level Waste. Low-level waste determined to contain both source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.	We assume that mixed low level waste managed under the CERCLA will be subject to only the substantive requirements of the RCRA.		
CH.IV.B. (2)	(2) TSCA-Regulated Waste. Low-level waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual.	We assume that mixed low level waste managed under the CERCLA will be subject to only the substantive requirements of the TSCA.		
CH.IV.B. (3)	(3) Accelerator-Produced Waste. Radioactive waste produced as a result of operations of DOE accelerators is low-level waste and shall be managed in accordance with DOE O 435.1, Radioactive Waste Management, and this Manual, and all applicable Federal or State requirements.	No action required.		
CH.IV.B. (4)	(4) 11e. (2) and Naturally Occurring Radioactive Material. Small quantities of 11e. (2) byproduct material and naturally occurring radioactive material may be managed as low-level waste provided they can be managed to meet the requirements for low-level waste disposal in Section IV.P of this Manual.	No action required.		

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CH.IV.C.	C. Complex-Wide Low-Level Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	No ERC action required.		
CH.IV.D.	D. Radioactive Waste Management Basis. Low-level waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis:	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		
CH.IV.D. (1)	(1) Generators. The waste certification program.	No action required. We are assuming that the removal and/or remedial actions at legacy waste sites is not waste generation. The legacy waste sites at Hanford are not "waste management" facilities and their excavation does not constitute generation of waste. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements.		
CH.IV.D. (2)	(2) Treatment Facilities. The waste acceptance requirements and the waste certification program.	No action required.		
CH.IV.D. (3)	(3) Storage Facilities. The waste acceptance requirements and the waste certification program.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.D. (4)	(4) Disposal Facilities. The performance assessment, composite analysis, disposal authorization statement, closure plan, waste acceptance requirements, and monitoring plan.	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity. A closure plan has not been developed for the ERDF.		
CH.IV.E.	E. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual.			
CH.IV.E. (1)	(1) Contingency Storage. For off-normal or emergency situations involving high activity or high hazard liquid low-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of liquid contained in any one storage tank or treatment facility. Tanks or other facilities that are designated low-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		
CH.IV.E. (2)	(2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of high activity or high hazard liquid low-level waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to achieve compliance	Cost
CH.IV.F.	F. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual.	No action required.		
CH.IV.F. (1)	(1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	No action required.		
CH.IV.F. (2)	(2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity..		
CH.IV.G.	G. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual:			
CH.IV.G. (1)	(1) Technical and Administrative. Waste acceptance requirements for all low-level waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following:	No action required.		
CH.IV.G. (1)(a)	(a) Allowable activities and/or concentrations of specific radionuclides.	No action required.		
CH.IV.G. (1)(b)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal.	No action required.		
CH.IV.G. (1)(c)	(c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance.	No action required.		

Section	435.1 Current Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.G. (1)(d)	(e) The following are additional waste acceptance requirements that shall be specified in low-level waste disposal facility waste acceptance requirements: Low-level waste must contribute to and not detract from achieving long-term stability of the facility, minimizing the need for long-term active maintenance, minimizing subsidence, and minimizing contact of water with waste. Void spaces within the waste and, if containers are used, between the waste and its container shall be reduced to the extent practical. Liquid low-level waste or low-level waste containing free liquid must be converted into a form that contains as little freestanding liquid as is reasonably achievable, but in no case shall the liquid exceed 1 percent of the waste volume when the low-level waste is in a disposal container, or 0.5 percent of the waste volume after it is processed to a stable form. Low-level waste must not be readily capable of detonation or of explosive decomposition or reaction at anticipated pressures and temperatures, or of explosive reaction with water. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable. Low-level waste must not contain, or be capable of generating by radiolysis or biodegradation, quantities of toxic gases, vapors, or fumes harmful to the public or workers or disposal facility personnel, or harmful to the long-term structural stability of the disposal site. Low-level waste in a gaseous form must be packaged such that the pressure does not exceed 1.5 atmospheres absolute at 20°C.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.G. (1)(e)	(e) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved.	No action required.		
CH.IV.G. (2)	(2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that the technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	No action required.		
CH.IV.H.	H. Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual.			
CH.IV.H. (1)	(1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all low-level waste streams.	No action required.		
CH.IV.H. (2)	(2) Waste With No Identified Path to Disposal. Low-level waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste.	No action required.		

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Chapter	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.I.	I. Waste Characterization. Low-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.IV.I. (1)	(1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.IV.I. (2)	(2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides; (e) Characterization date; (f) Generating source; and (g) Any other information which may be needed to prepare and maintain the disposal facility performance assessment, or demonstrate compliance with applicable performance objectives.	No action required.		

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CH.IV.J.	J. Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving low-level waste for storage, treatment, and disposal are met.	No action required.		
CH.IV.J. (1)	(1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.IV.J. (2)	(2) Certification Before Transfer. Low-level waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.IV.J. (3)	(3) Maintaining Certification. Low-level waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		

Chapter	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.K.	K. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of low-level waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.IV.K. (1)	(1) Authorization. Low-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	No action required.		
CH.IV.K. (2)	(2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for low-level waste shall be transferred with or be traceable to the waste.	No action required. The activities of collection, remediation, recovery, digging, etc. of waste material is not waste generation or management but may trigger generator requirements. Characterization, preparation for transfer and transfer, and certification are performed to meet the Waste Acceptance Criteria for the ERDF as required by the ERDF Record of Decision.		
CH.IV.L.	L. Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual.			

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CH.IV.L. (1)	(1) Packaging. If containers are used: (a) Low-level waste shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste has been removed from the container. (b) When waste is packaged, vents or other measures shall be provided if the potential exists for pressurizing or generating flammable or explosive concentrations of gases within the waste container. (c) Containers of low-level waste shall be marked such that their contents can be identified.	No action required.		
CH.IV.L. (2)	(2) Transportation. To the extent practical, the volume of waste and number of low-level waste shipments shall be minimized.	No action required.		
CH.IV.M.	M. Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual.			
CH.IV.M. (1)	(1) Site Evaluation. Proposed locations for low-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses.	No action required.		

Section	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.M. (1)(a)	(a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 1. Located to accommodate the projected volume of waste to be received; 2. Located in a flood plain, a tectonically active area, or in the zone of water table fluctuation; and 3. Located where radionuclide migration pathways are predictable and erosion and surface runoff can be controlled.	No action required.		
CH.IV.M. (1)(b)	(b) Proposed sites with environmental characteristics, geotechnical characteristics, and human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	No action required.		
CH.IV.M. (1)(c)	(c) Low-level waste disposal facilities shall be sited to achieve long-term stability and to minimize, to the extent practical, the need for active maintenance following final closure.	No action required.		
CH.IV.M. (2)	(2) Low-Level Waste Treatment and Storage Facility Design. The following facility requirements and general design criteria, at a minimum, apply:	No action required.		
CH.IV.M. (2)(a)	(a) Confinement. Low-level waste systems and components shall be designed to maintain waste confinement.	No action required.		

Citation	435.1 Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.M. (2)(b)	(b) Ventilation. 1. Design of low-level waste treatment and storage facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	No action required.		
CH.IV.M. (2)(c)	(c) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing low-level waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described.	No action required.		
CH.IV.M. (2)(d)	(d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of low-level waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems.	No action required.		

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CH.IV.M. (2)(e)	(e) Monitoring. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of low-level waste treatment and storage facilities to provide rapid identification of failed confinement and/or other abnormal conditions.	No action required.		
CH.IV.M. (3)	(3) Low-Level Waste Disposal Facility Design. The following facility requirements and general design criteria, at a minimum, apply:			
CH.IV.M. (3)(a)	(a) Confinement. Low-level waste systems and components shall be designed to maintain waste confinement.	No action required.		
CH.IV.M. (3)(b)	(b) Ventilation. 1. Design of low-level waste disposal facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	No action required.		
CH.IV.M. (3)(c)	(c) Stability. Low-level waste disposal facilities shall be designed to achieve long-term stability and to minimize to the extent practical, the need for active maintenance following final closure.	No action required.		

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CH.IV.M. (3)(d)	(d) Control of Water. Low-level waste disposal facilities shall be designed to minimize to the extent practical, the contact of waste with water during and after disposal.	No action required. We assume that this requirement does not address the use of water to control dust at the ERDF or other locations.		
CH.IV.N.	N. Storage and Staging. The following requirements are in addition to those in Chapter I of this Manual.			
CH.IV.N. (1)	(1) Storage Prohibitions. Low-level waste in storage shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable.	No action required. We assume that wastes in the area of contamination at a CERCLA activity are not considered to be in storage.		
CH.IV.N. (2)	(2) Storage Limit. Low-level waste that has an identified path to disposal shall not be stored longer than one year prior to disposal, except for storage for decay, or as otherwise authorized by the Field Element Manager.	No action required. We assume that wastes in the area of contamination at a CERCLA activity are not considered to be in storage.		
CH.IV.N. (3)	(3) Storage Integrity. Low-level waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure.	No action required. We assume that wastes in the area of contamination at a CERCLA activity are not considered to be in storage.		
CH.IV.N. (4)	(4) Waste Characterization for Storage.			
CH.IV.N. (4)(a)	(a) Low-level waste that does not have an identified path to disposal shall be characterized as necessary to meet the data quality objectives and minimum characterization requirements of this Chapter, to ensure safe storage, and to facilitate disposal.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.N. (4)(b)	(b) Characterization information for all low-level waste in storage shall be maintained as a record in accordance with the requirements for Records Management in Chapter I of this Manual.	No action required. We assume that wastes in the area of contamination at a CERCLA activity are not considered to be in storage. We assume this is an administrative requirement not applicable to CERCLA activities.		
CH.IV.N. (5)	(5) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of low-level waste to ensure container integrity is not compromised.	No action required. We assume that wastes in the area of contamination at a CERCLA activity do not trigger this requirement.		
CH.IV.N. (6)	(6) Storage Management. Low-level waste storage shall be managed to identify and segregate low-level waste from mixed low-level waste.	No action required. We assume that wastes in the area of contamination at a CERCLA activity do not trigger this requirement.		
CH.IV.N. (7)	(7) Staging. Staging of low-level waste shall be for the purpose of the accumulation of such quantities of waste as necessary to facilitate transportation, treatment, and disposal. Staging longer than 90 days shall meet the requirements for storage above and in Chapter I of this Manual.	No action required. We assume that wastes in the area of contamination at a CERCLA activity do not trigger this requirement.		
CH.IV.O.	O. Treatment. Low-level waste treatment to provide more stable waste forms and to improve the long-term performance of a low-level waste disposal facility shall be implemented as necessary to meet the performance objectives of the disposal facility.	No action required		
CH.IV.P.	P. Disposal. Low-level waste disposal facilities shall meet the following requirements.			

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CH.IV.P. (1)	(1) Performance Objectives. Low-level waste disposal facilities shall be sited, designed, operated, maintained, and closed so that a reasonable expectation exists that the following performance objectives will be met for waste disposed of after September 26, 1988:	No action required.		
CH.IV.P. (1)(a)	(a) Dose to representative members of the public shall not exceed 25 mrem (0.25 mSv) in a year total effective dose equivalent from all exposure pathways, excluding the dose from radon and its progeny in air.	No action required.		
CH.IV.P. (1)(b)	(b) Dose to representative members of the public via the air pathway shall not exceed 10 mrem (0.10 mSv) in a year total effective dose equivalent, excluding the dose from radon and its progeny.	No action required.		
CH.IV.P. (1)(c)	(c) Release of radon shall be less than an average flux of 20 pCi/m2/s (0.74 Bq/m2/s) at the surface of the disposal facility. Alternatively, a limit of 0.5 pCi/l (0.0185 Bq/l) of air may be applied at the boundary of the facility.	No action required.		
CH.IV.P. (2)	(2) Performance Assessment. A site-specific radiological performance assessment shall be prepared and maintained for DOE low-level waste disposed of after September 26, 1988. The performance assessment shall include calculations for a 1,000 year period after closure of potential doses to representative future members of the public and potential releases from the facility to provide a reasonable expectation that the performance objectives identified in this Chapter are not exceeded as a result of operation and closure of the facility.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		

Citation	[illegible] Requirement	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.P. (2)(a)	(a) Analyses performed to demonstrate compliance with the performance objectives in this Chapter, and to establish limits on concentrations of radionuclides for disposal based on the performance measures for inadvertent intruders in this Chapter shall be based on reasonable activities in the critical group of exposed individuals. Unless otherwise specified, the assumption of average living habits and exposure conditions in representative critical groups of individuals projected to receive the highest doses is appropriate. The likelihood of inadvertent intruder scenarios may be considered in interpreting the results of the analyses and establishing radionuclide concentrations, if adequate justification is provided.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (2)(b)	(b) The point of compliance shall correspond to the point of highest projected dose or concentration beyond a 100 meter buffer zone surrounding the disposed waste. A larger or smaller buffer zone may be used if adequate justification is provided.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (2)(c)	(c) Performance assessments shall address reasonably foreseeable natural processes that might disrupt barriers against release and transport of radioactive materials.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (2)(d)	(d) Performance assessments shall use DOE-approved dose coefficients (dose conversion factors) for internal and external exposure of reference adults.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (2)(e)	(e) The performance assessment shall include a sensitivity/uncertainty analysis.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		

Citation	[illegible]	Compliance Status	[illegible]	[illegible]
CH.IV.P. (2)(f)	(f) Performance assessments shall include a demonstration that projected releases of radionuclides to the environment shall be maintained as low as reasonably achievable (ALARA).	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (2)(g)	(g) For purposes of establishing limits on radionuclides that may be disposed of near-surface, the performance assessment shall include an assessment of impacts to water resources.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (2)(h)	(h) For purposes of establishing limits on the concentration of radionuclides that may be disposed of near-surface, the performance assessment shall include an assessment of impacts calculated for a hypothetical person assumed to inadvertently intrude for a temporary period into the low-level waste disposal facility. For intruder analyses, institutional controls shall be assumed to be effective in deterring intrusion for at least 100 years following closure. The intruder analyses shall use performance measures for chronic and acute exposure scenarios, respectively, of 100 mrem (1 mSv) in a year and 500 mrem (5 mSv) total effective dose equivalent excluding radon in air.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.P. (3)	(3) Composite Analysis. For disposal facilities which received waste after September 26, 1988, a site-specific radiological composite analysis shall be prepared and maintained that accounts for all sources of radioactive material that may be left at the DOE site and may interact with the low-level waste disposal facility, contributing to the dose projected to a hypothetical member of the public from the existing or future disposal facilities. Performance measures shall be consistent with DOE requirements for protection of the public and environment and evaluated for a 1,000 year period following disposal facility closure. The composite analysis results shall be used for planning, radiation protection activities, and future use commitments to minimize the likelihood that current low-level waste disposal activities will result in the need for future corrective or remedial actions to adequately protect the public and the environment.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.P. (4)	(4) Performance Assessment and Composite Analysis Maintenance. The performance assessment and composite analysis shall be maintained to evaluate changes that could affect the performance, design, and operating bases for the facility. Performance assessment and composite analysis maintenance shall include the conduct of research, field studies, and monitoring needed to address uncertainties or gaps in existing data. The performance assessment shall be updated to support the final facility closure. Additional iterations of the performance assessment and composite analysis shall be conducted as necessary during the post-closure period.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (4)(a)	(a) Performance assessments and composite analyses shall be reviewed and revised when changes in waste forms or containers, radionuclide inventories, facility design and operations, closure concepts, or the improved understanding of the performance of the waste disposal facility in combination with the features of the site on which it is located alter the conclusions or the conceptual model(s) of the existing performance assessment or composite analysis.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		
CH.IV.P. (4)(b)	(b) A determination of the continued adequacy of the performance assessment and composite analysis shall be made on an annual basis, and shall consider the results of data collection and analysis from research, field studies, and monitoring.	GAP. CERCLA risk assessment must be reviewed against PA requirements.		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.P. (4)(c)	(c) Annual summaries of low-level waste disposal operations shall be prepared with respect to the conclusions and recommendations of the performance assessment and composite analysis and a determination of the need to revise the performance assessment or composite analysis.	An annual summary is completed by BHI for the ERDF. BHI does not prepare the summary with respect to the performance assessment or the composite analysis.		
CH.IV.P. (5)	(5) Disposal Authorization. A disposal authorization statement shall be obtained prior to construction of a new low-level waste disposal facility. Field Elements with existing low-level waste disposal facilities shall obtain a disposal authorization statement in accordance with the schedule in the Complex-Wide Low-Level Waste Management Program Plan. The disposal authorization statement shall be issued based on a review of the facility's performance assessment, composite analysis, performance assessment and composite analysis maintenance, preliminary closure plan, and preliminary monitoring plan. The disposal authorization statement shall specify the limits and conditions on construction, design, operations, and closure of the low-level waste facility based on these reviews. A disposal authorization statement is a part of the radioactive waste management basis for a disposal facility. Failure to obtain a disposal authorization statement by the implementation date of this Order shall result in shutdown of the disposal facility.	An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		

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Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.P. (6)	(6) Disposal Facility Operations. The disposal facility design and operation must be consistent with the disposal facility closure plan and lead to disposal facility closure that provides a reasonable expectation that performance objectives will be met. Low-level waste shall be disposed in such a manner that achieves the performance objectives stated in this Chapter, consistent with the disposal facility radiological performance assessment. Additional requirements include:	A closure plan has not been developed for the ERDF.		
CH.IV.P. (6)(a)	(a) Operating procedures shall be developed and implemented for low-level waste disposal facilities that protect the public, workers, and the environment; ensure the security of the facility; minimize subsidence during and after waste emplacement; achieve long-term stability and minimize the need for long-term active maintenance; and meet the requirements of the closure/post-closure plan.	A closure plan has not been developed for the ERDF.		
CH.IV.P. (6)(b)	(b) Permanent identification markers for disposal excavations and monitoring wells shall be emplaced.	No action required.		
CH.IV.P. (6)(c)	(c) Low-level waste placement into disposal units shall minimize voids between waste containers. Voids within disposal units shall be filled to the extent practical. Uncontainerized bulk waste shall also be placed in a manner that minimizes voids and subsidence.	No action required.		
CH.IV.P. (6)(d)	(d) Operations are to be conducted so that active waste disposal operations will not have an adverse effect on any other disposal units.	No action required.		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.P. (6)(e)	(e) Operations shall include a process for tracking and documenting low-level waste placement in the facility by generator source.	No action required.		
CH.IV.P. (7)	(7) Alternate Requirements for Low-Level Waste Disposal Facility Design and Operation. Requirements other than those set forth in this Section for the design and operation of a low-level waste disposal facility may be approved on a specific basis if a reasonable expectation is demonstrated that the disposal performance objectives will be met.	No ERC action required.		
CH.IV.Q.	Q. Closure. The following requirements are in addition to those in Chapter I of this Manual.			

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
CH.IV.Q. (1)	(1) Disposal Facility Closure Plans. A preliminary closure plan shall be developed and submitted to Headquarters for review with the performance assessment and composite analysis. The closure plan shall be updated following issuance of the disposal authorization statement to incorporate conditions specified in the disposal authorization statement. Closure plans shall: (a) Be updated as required during the operational life of the facility. (b) Include a description of how the disposal facility will be closed to achieve long-term stability and minimize the need for active maintenance following closure and to ensure compliance with the requirements of DOE 5400.5, Radiation Protection of the Public and the Environment. (c) Include the total expected inventory of wastes to be disposed of at the facility over the operational life of the facility.	A closure plan has not been developed for the ERDF.		

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.Q. (2)	(2) Disposal Facility Closure. Closure of a disposal facility shall occur within a five-year period after it is filled to capacity, or after the facility is otherwise determined to be no longer needed. (a) Prior to facility closure, the final inventory of the low-level waste disposed in the facility shall be prepared and incorporated in the performance assessment and composite analysis which shall be updated to support the closure of the facility. (b) A final closure plan shall be prepared based on the final inventory of waste disposed in the facility, the plan implemented, and the updated performance assessment and composite analysis prepared in support of the facility closure. (c) Institutional control measures shall be integrated into land use and stewardship plans and programs, and shall continue until the facility can be released pursuant to DOE 5400.5, Radiation Protection of the Public and the Environment. (d) The location and use of the facility shall be filed with the local authorities responsible for land use and zoning.	A closure plan has not been developed for the ERDF.		
CH.IV.R.	R. Monitoring. The following requirements are in addition to those in Chapter I of this Manual.			

Citation	435.1-1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.R. (1)	(1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed.	No action required.		
CH.IV.R. (2)	(2) Liquid Waste Storage Facilities. For facilities storing liquid low-level waste, the following shall also be monitored: liquid level and/or waste volume, and significant waste chemistry parameters.	No action required.		

Citation	435.1 Manual Requirements	Compliance Status	Plan to Achieve Compliance	Cost
CH.IV.R. (3)	(3) Disposal Facilities. A preliminary monitoring plan for a low-level waste disposal facility shall be prepared and submitted to Headquarters for review with the performance assessment and composite analysis. The monitoring plan shall be updated within one year following issuance of the disposal authorization statement to incorporate and implement conditions specified in the disposal authorization statement. (a) The site-specific performance assessment and composite analysis shall be used to determine the media, locations, radionuclides, and other substances to be monitored. (b) The environmental monitoring program shall be designed to include measuring and evaluating releases, migration of radionuclides, disposal unit subsidence, and changes in disposal facility and disposal site parameters which may affect long-term performance. (c) The environmental monitoring programs shall be capable of detecting changing trends in performance to allow application of any necessary corrective action prior to exceeding the performance objectives in this Chapter.	The monitoring plan is updated as needed. An authorization basis has not been obtained for the ERDF. DOE HQ has requested RL to prepare a crosswalk to be submitted by June 25, 2000 to support a Disposal Authorization. Funds have not yet been allocated to the ERC to support this activity.		

ATTACHMENT 7

CH2M HILL HANFORD GROUP, INC.

CH2M HILL Hanford Group, I... Gap Analysis and Crosswalk of DOE 5820.2A vs. DOE O 435.1/M 435.1-1

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.1	PURPOSE. To establish policies, guidelines, and minimum requirements by which the Department of Energy (DOE) manages its radioactive and mixed waste and contaminated facilities.	O.1 M.1	OBJECTIVE. The objective of this Order is to ensure that all Department of Energy (DOE) radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. PURPOSE. This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment.			
O.2.	CANCELLATION. DOE 5820.2, RADIOACTIVE WASTE MANAGEMENT OF 2-6-84.	O.2	CANCELLATION. The following is canceled: DOE 5820.2A, Radioactive Waste Management, of 9-26-88. Cancellation of that Order does not, by itself, modify or otherwise affect any contractual obligation to comply with the Order. The provisions of this canceled Order which have been incorporated by reference in a contract shall remain in effect until the contract is modified.	• 5820.2A on contract.		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.3	SCOPE. The provisions of this Order apply to all DOE elements and, as required by law and/or contract and as implemented by the appropriate contracting officer, all DOE contractors and subcontractors performing work that involves management of waste containing radioactivity and/or radioactively contaminated facilities for DOE under the Atomic Energy Act of 1954, as amended (Public Law 83 –703)	O.3	APPLICABILITY. DOE Elements. This Order applies to all DOE elements except as stated in item "d." Radioactive Waste. Except as stated in item "d," this Order applies to the management of: 1. All high-level waste, transuranic waste, and low-level waste, including the radioactive component of mixed waste, for which DOE is responsible; 1. DOE accelerator-produced radioactive waste; and 1. If managed at DOE low-level waste facilities, byproduct materials as defined by section 11e.(2) of the Atomic Energy Act of 1954, as amended, or naturally occurring radioactive materials. 1. Contractors. The Contractor Requirements Document, Attachment 1, sets forth requirements to be applied to contractors performing work that involves management of DOE radioactive waste at DOE-owned or leased facilities. Contractor compliance with the Contractor Requirements Document will be required to the extent set forth in a contract.			
		M.2	APPLICABILITY. The requirements set forth in this Manual apply to DOE elements and contractors as set forth in DOE O 435.1, Radioactive Waste Management.			
		M.3	SUMMARY. This Manual is organized into four (4) chapters. Chapter I, General Requirements and Responsibilities, contains requirements and responsibilities which are applicable to all radioactive waste types and delineates responsibilities for radioactive waste management decision-making at the complex-wide and Field Element levels. Chapters II through IV contain those requirements that are applicable to high-level waste, transuranic waste, and low-level waste including the radioactive component of mixed low-level waste, respectively.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.4	EXCLUSION. This Order does not apply to the management by the Department of commercially generated spent nuclear fuel or high-level radioactive waste, nor to the geologic disposal of high-level waste produced by the Department's activities and operations. Such materials are managed by the Office of Civilian Radioactive Waste Management under the requirements of the Nuclear Waste Policy Act of 1982, as amended (Public Law 97-425).	O.3.d	Exemptions This Order does not apply to certain DOE programs, facilities, or activities as described below. 1. This Order does not apply to activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1985, Public Law 98-525. 1. Requirements in this Order that overlap or duplicate requirements of the Nuclear Regulatory Commission (NRC) related to radiation protection, nuclear safety (including quality assurance), and safeguards and security of nuclear material, do not apply to the design, construction, operation, and decommissioning of Office of Civilian Radioactive Waste Management facilities as defined in DOE O 250.1, Civilian Radioactive Waste Management Facilities – Exemptions from Departmental Orders. 1. Requirements in this Order that overlap or duplicate requirements of NRC or an Agreement State do not apply to facilities and activities licensed by the NRC or an Agreement State. 1. Requirements in this Order that overlap or conflict with the Waste Isolation Pilot Plant Land Withdrawal Act of 1992, as amended, Public Law 102-579, do not apply to the operation of the Waste Isolation Pilot Plant or the disposal of waste therein. 1. Unless managed in a low-level waste facility, requirements in this Order do not apply to byproduct material as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended, or naturally occurring radioactive material. 1. This Order does not apply to either spent nuclear fuel or non-waste materials. (7) Upon request or on its own initiative, DOE may grant exemptions from the requirements of this Order in accordance with the process provided by DOE ~~O 251.A,~~ M251.1-1A, Directives System Manual, as applicable.	• M 251.1-1A not on contract: gap analysis will be included in implementation plan.		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.5	POLICY. Radioactive and mixed wastes shall be managed in a manner that assures protection of the health and safety of the public, DOE, and contractor employees, and the environment. The generation, treatment, storage, transportation, and/or disposal of radioactive wastes, and the other pollutants or hazardous substances they contain, shall be accomplished in a manner that minimizes the generation of such wastes across program office functions and complies with all applicable Federal, State, and local environmental, safety, and health laws and regulations and DOE requirements.	O.4 M.I.1.C.	REQUIREMENTS. I. DOE radioactive waste management activities shall be systematically planned, documented, executed, and evaluated. I. Radioactive waste shall be managed to: I. Protect the public from exposure to radiation from radioactive materials. Requirements for public radiation protection are in DOE 5400.5, Radiation Protection of the Public and the Environment. I. Protect the environment. Requirements for environmental protection are in DOE 5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment. I. Protect workers. Requirements for radiation protection of workers are in 10 CFR Part 835, Occupational Radiation Protection; requirements for industrial safety are in DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees. I. Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives. I. All radioactive waste shall be managed in accordance with the requirements in DOE M 435.1-1, Radioactive Waste Management Manual. I. DOE, within its authority, may impose such requirements, in addition to those established in this Order, as it deems appropriate and necessary to protect the public, workers, and the environment, or to minimize threats to property. Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, Radioactive Waste Management, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 440.1A and CRD 440.1 on contract • 10 CFR Part 835 impact TBD – (HOTAREK) • Executive Orders 12856 & 13101 impact TBD – (HOTAREK) • 5400.1 on contract		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.6	REFERENCES.	O.6 M.I.1.E	REFERENCES. DOE M 435.1-1, Radioactive Waste Management Manual of XX-XX-XX and DOE G 435.1-1, Implementation Guide for DOE M 435.1-1. Requirements of Other Regulations and DOE Directives. The following requirements and DOE directives are required for all DOE radioactive waste management facilities, operations, and activities as applicable. Any of the requirements for the following Departmental directives may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, or by an exemption processed in accordance with the requirements of that directive or DOE M 251.1-1A, Directives System Manual.	• Not on contract – Impact TBD – (HOTAREK) • P 450.3 • M 450.3-1 • P 450.4 • M 251.1-1A (previously identified) • Requires review of closure process to understand waiver and modification process, per M. Brown	$9K	
	1. DOE 1332.A, UNIFORM REPORTING SYSTEM, of 10-15-85, establishes the content and format of plans and reports to be obtained from the Department's contractors and stipulated as a contract requirement.	None	Essential requirements to address radioactive waste management are no longer found in this Directive or its successor(s).			
	2. DOE 1430.1A, MANAGEMENT OF THE DEPARTMENT' S SCIENTIFIC AND TECHNICAL INFORMATION, of 9-10-86, which establishes the policy that scientific and technical information developed during work supported by DOE shall be promptly and fully reported to the Technical Information Center (MA-28), located in Oak Ridge Tennessee, for inclusion in the Department's information data base.	None	Essential requirements to address radioactive waste management are no longer found in this Directive or its successor(s).			
	3. DOE 1540.1, MATERIALS TRANSPORTATION AND TRAFFIC MANAGEMENT of 5-3-82, establishes the Department's policies for management of materials transportation activities.	M.I.1.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	• Requires implementation of Order 460.1A and 460.2 since both are included in LMHC's contract.	$12 K	
	4. DOE 1540.2, HAZARDOUS MATERIAL PACKAGING FOR TRANSPORTATION ADMINISTRATIVE PROCEDURES of 9-30-86, establishes administrative procedures for the certification and use of radioactive and other hazardous materials packaging by the Department of Energy.	M.I.1.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	See M.I.1.E.(11) impact above	See above	
					$21 K	
O.6	5. DOE 2110.1, PRICING OF DEPARTMENTAL MATERIALS AND SERVICES of 2-16-84, which establishes the Department's policy for establishing prices and charges for materials and services provided to outside persons and organizations.	None	Essential requirements to address radioactive waste management are no longer found in this Directive or its successor(s).			

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
	6. DOE 4300.1B, REAL PROPERTY AND SITE DEVELOPMENT PLANNING of 7-1-87, establishes Department policies and procedures for planning the development and utilization of sites and their facilities and for the acquisition, use, inventory, and disposal of real property or interests therein.	M.1.1.E.(9)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program, including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.	• 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • O 4330.4B on contract Category 3 Two configuration management deficiencies (to 10 CFR 830.120) are noted with compensatory actions, corrective actions including completion dates are reported in HNF-SP-1228, Appendix A, Actions 2 and 5. • Deficiency 2 indicates that accurate drawings are not available for all facilities and systems. An H-14 and Labeling upgrade effort is underway, however FDH chose not to update the completion date of September 2000. • Deficiency 5 indicated that design basis information is not available for all facilities. Funding has been obtained to initiate this effort in FY00. Completion by the current October 2005 is expected.		
	7. DOE 4700.1, PROJECT MANAGEMENT SYSTEM, of 3-6-87, establishes the DOE Project Management System (PMS), provides implementing instructions, formats and procedures and sets forth requirements which govern the development, approval and execution of DOE' s outlay program acquisition as embodied in the PMS.	M.1.1.E.(9)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program, including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.	Compliance analysis provided above		
	DOE 5000.3, UNUSUAL OCCURRENCE REPORTING SYSTEM of 11-7-84, establishes the Department's policy and provides instructions for reporting, analyzing, and disseminating information on programmatically significant events.	M.1.1.E.(6)	Environmental and Occurrence Reporting. Radioactive waste management facilities, operations, and activities shall meet the reporting requirements of DOE O 231.1, Environment, Safety and Health Reporting, and DOE O 232.1A, Occurrence Reporting and Processing of Operations Information.	• 231.1 on contract • O 232.1A on contract along with M 232.1-1A and HFID 232.1B		
	9. DOE 5400.2, ENVIRONMENTAL COMPLIANCE ISSUE COORDINATION, of 8 –13 –87, establishes DOE requirements for coordination of significant environmental compliance issues.	None	Essential requirements to address radioactive waste management are no longer found in this Directive or its successor(s).			
	10. DOE 5440.1C, NATIONAL ENVIRONMENTAL POLICY ACT of 4-9-85, establishes the Department' s policy for implementation of the National Environmental Policy Act of 1969 (Public Law 91-190).	M.1.1.D.	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	• 10 CFR Part 1021 impact TBD (HOTAREK) • O 451.1A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.6	11. DOE 5480.1B, ENVIRONMENTAL SAFETY, AND HEALTH PROGRAM FOR DEPARTMENT OF ENERGY OPERATIONS of 9-23-86, establishes an overall framework of program requirements for safety, environmental, and health protection, including criteria for radiation exposure and radioactive effluent releases for operating facilities and sites.	M.I.I.E.(13)	Radiation Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 835, Occupational Radiation Protection, and DOE 5400.5, Radiation Protection of the Public and Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 10 CFR Part 835 impact TBD (HOTAREK)		
	12. DOE 5480.3, SAFETY REQUIREMENTS FOR THE PACKAGING AND TRANSPORTATION OF HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES AND HAZARDOUS WASTES, of 7-9-85, establishes requirements for the packaging and transportation of hazardous materials, hazardous substances, and hazardous wastes.	M.I.I.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.			
	13. DOE 5481.1B, SAFETY ANALYSIS AND REVIEW SYSTEM of 9-23-86, establishes uniform requirements for the preparation and review of safety analyses of DOE operations.	M.I.I.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	• DOE-STD-1027-92 not on contract but being adhered to • DOE-EM-STD-5502-94 not on contract but being adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • O 5480.23 on contract with change 1 – impact TBD (HOTAREK)		
	14. DOE 5482.1B, ENVIRONMENT, SAFETY AND HEALTH APPRAISAL PROGRAM of 9-23-86 establishes an environment safety and health appraisal program for DOE.	M.I.I.E.(13)	Radiation Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 835, Occupational Radiation Protection, and DOE 5400.5, Radiation Protection of the Public and Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 10 CFR Part 835 impact TBD (HOTAREK)		
	15. DOE 5484.1, ENVIRONMENTAL, SAFETY, AND HEALTH PROTECTION INFORMATION REPORTING REQUIREMENTS of 2-24-81, establishes requirements and practices for reporting environmental, health, and safety information for DOE operations.	M.I.I.E.(6)	Environmental and Occurrence Reporting. Radioactive waste management facilities, operations, and activities shall meet the reporting requirements of DOE O 231.1, Environment, Safety and Health Reporting, and DOE O 232.1A, Occurrence Reporting and Processing of Operations Information.	• 231.1 on contract • O 232.1A on contract along with M 232.1-1A and HFID 232.1B		
	16. DOE 5700.6B, QUALITY ASSURANCE of 9-23-86, sets forth principles and assigns responsibilities for establishing, implementing, and maintaining programs of plans and actions to assure quality achievement in the Department's programs.	M.I.I.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.			

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
O.6	17. DOE 6430.1, GENERAL DESIGN CRITERIA of 12-12-83, establishes general design criteria for use in acquisition of the Department's facilities and to establish responsibilities and authorities for the development and maintenance of those criteria.	M.1.1.E.(18)	Site-Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.	• Review new facilities/activities for regulatory issues • Complete review of new orders 420.1 and 430.1A for compliance issues.	$12 K	
	18. WIPP-DOE-069, rev. 2, of 9-85, "Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant" of 9-81, as updated, specifies basic requirements for disposal of contact-handled and remote-handled transuranic waste at the Waste Isolation Pilot Plant. Copies of this and other DOE Waste Isolation Pilot Plant reports may be obtained from the Albuquerque Operations Office.	None	Lower Tier Document that implements essential transuranic waste acceptance requirements.			
	19. WIPP-DOE-120, rev. 1, of 1-83, "Quality Assurance" establishes the Quality Assurance requirements to ensure that each site's transuranic waste certification program will perform satisfactorily.	None	Lower Tier Document that implements essential transuranic waste quality assurance and waste certification requirements.			
	WIPP-HOE-157 rev. 1, of 9-85, "Data Package Format for Certified Transuranic Waste for the Waste Isolation Pilot Plant" specifies the arrangement of data which are required to be reported to the Waste Isolation Pilot Plant for transuranic waste to be received.	None	Lower Tier Document that implements essential transuranic waste certification and packaging and transportation requirements.			
	21. DOE/LLW-63T of 9-87, "Guidance for Conduct of Waste Management Systems Performance Assessment" provides information on meeting the systems performance requirement of Chapter III3b(2) of DOE 5820. 2A.	None	Guidance for 5820.2A. Does not contain essential requirements.	• 5820.2A on contract		
	22. DOE-J10-025 of 9-87, "Comprehensive Implementation Plan for the DOE Defense Buried Transuranic-Contaminated Waste Program, describes long term management alternatives for all DOE sites with buried transuranic waste.	None	Planning Document. Does not contain essential requirements.			
O.6	23. DOE/RW-0006, rev. 3, "Integrated Data Base for 1987: Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics" of 9-87, with annual updates, summarizes data in the Integrated Data Base program on all domestic spent fuel and radioactive waste. Copies may be obtained from the Office of Nuclear Energy, Germantown, or the Technical Information Center, Oak Ridge.	None	Reference Document. Does not contain essential requirements.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
	DOE/DP/0020/1 "An Evaluation of Commercial Repository Capacity for the Disposal of Defense High Level Waste," of 6-85, evaluates the use of civilian repository capacity for the disposal of high level waste resulting from Defense activities, and provided to the President as one analytical input for his evaluation as required under the Nuclear Waste Policy Act.	None	Planning Document. Does not contain essential requirements.			
	Nuclear Waste Policy Act of 1982. As amended. (Public Law 97-425) provides for the development of depositories for the disposal of high-level waste and spent nuclear fuel.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	26. Uranium Mill Tailings Radiation Control Act of 1978 (Pubic Law 95-604) establishes national policy for control of uranium mill tailings.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	27. Energy Reorganization Act of 1974 (Public Law 93-438), in Section 202, assigns licensing and related regulatory authority to the Nuclear Regulatory Commission for facilities authorized for the express-purpose of long-term storage of defense high-level waste.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	28. Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164), Section 213(a) authorizes the Waste Isolation Pilot Plant.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
O.6	29. Low-Level Radioactive Waste Policy Amendments Act of 1985 (Public Law 99-240) makes the Federal Government responsible for disposal of commercially generated greater than class C waste as defined in Section 3(b) (1) (D) of the Act.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	30. Resource Conservation and Recovery Act of 1976, as amended, (Public Law 94-580) establishes safe and environmentally acceptable management practices for solid wastes.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	31. Comprehensive Environment Response, Compensation, and Liability Act of 1980, as amended, (Public Law 96-510) to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment, and the cleanup of inactive hazardous waste disposal sites.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	32. The Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-270) provides for a fund (Superfund) which may be utilized by the Environmental Protection Agency, State, and local governments to clean up hazardous waste sites listed on the National Priorities List.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			

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	National Environmental Policy Act of 1969 (Public Law 91-190) requires the preparation of a statement which considers environmental impacts, alternatives, and resource commitments for any major Federal action that significantly affects the quality of the human environment.	I. O.4.b	Radioactive waste shall be managed to: I. Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.	• 10 CFR Part 1021 impact TBD (HOTAREK) • O 451.1A on contract		
		I.I.D.	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	• Conduct gap analysis of DOE O 451.1A	$9 K	
	34. Title 5 CFR 1320, Controlling Paperwork Burdens on the Public serves as the implementing regulation for Public Law 96-511, Paperwork Reduction Act of 1980 and directs the identification and clearance of information collections levied on the public including contractors, State and local government units, and persons who perform services for the Department on an individual basis.	None	See Clearance under the Paperwork Reduction Act of 1980 issued for DOE Order 5820.2A, Item 11, which is presented later in this crosswalk table.	• 5820.2A on contract		
O.6	35. Title 10 CFR Part 60, of 2-25-81, Disposal of High-Level Wastes in Geologic Repositories, prescribes rules governing the licensing of the Department of Energy to receive and possess source, special nuclear, and byproduct material at a geologic repository operations area.	None	Not applicable to radioactive waste management activities conducted at DOE facilities under Order 435.1. Evaluated in Requirements Analysis to derive essential requirements.			
	36. Title 10 CFR Part 61, of 12-27-82, Licensing Requirements for Land Disposal of Radioactive Waste, establishes technical requirements for the land disposal of commercial low-level waste including site selection, site design, and facility operation and closure.	None	Not applicable to radioactive waste management activities conducted at DOE facilities under Order 435.1. Evaluated in Requirements Analysis to derive essential requirements.			
	37. Title 10 CFR Part 71, of 8-5-83, Packaging and Transportation of Radioactive Material, establishes (1) requirements for packaging, preparation for shipment, and transportation of licensed material and (2) procedures and standards for NRC approval of packaging and shipping procedures for fissile material and for a quantity of other licensed material in excess of a Type A quantity.	None	Not applicable to radioactive waste management activities conducted at DOE facilities under Order 435.1. Evaluated in Requirements Analysis to derive essential requirements.			

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	38. Title 10 CFR Part 962, of 5-1-87, Radioactive Waste; Byproduct Material establishes the policy that all DOE radioactive waste which is hazardous under the Resource Conservation and Recovery Act will be subject to regulation under both the Resource Conservation and Recovery Act and Atomic Energy Act.	O.4.b M.1.1.E.(10)	Radioactive waste shall be managed to: 1. Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives. Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	• Category 4: Review RCRA regulations addressing storage of hazardous waste vis-a- vis DOE O 435.1		$9 K
	39. Title 40 CFR Part 61, of 7-1-87 National Emission Standards for Hazardous Air Pollutants, establishes standards for atmospheric emissions of hazardous air pollutants and radionuclides.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
O.6	40. Title 40 CFR Part 191, of 9-19-85, Environmental Radioactive Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Waste, establishes radiation protection standards governing the management and storage of spent nuclear fuel or high-level or transuranic wastes at any disposal facility operated by DOE.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	41. Title 40 CFR Part 192, of 1-5-83, Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings, concerns the control of residual radioactive material at designated processing or disposal sites.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	42. Title 40 CFR part 261, of 5-19-80, Identification and Listing of Hazardous Waste identifies those solid wastes that are subject to regulation as hazardous waste.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	43. Title 40 CFR 262, of 5-19-80, Standards Applicable to Generators of Hazardous Waste, establishes manufacturing, packaging, labeling, record keeping, and reporting requirements for generators of hazardous waste.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	44. Title 40 CFR Part 263, of 5-19-80, Standards Applicable to Transporters of Hazardous Waste, establishes manufacturing, record keeping, spill reporting and cleanup requirements for transporters of hazardous waste.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	45. Title 40 CFR Part 264, of 5-19-80, Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, establishes minimum national standards defining the acceptable management of hazardous waste.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			

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O.6	46. Title 40 CFR Part 265, of 5-19-80, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, establishes minimum national standards that define the acceptable management of hazardous waste during the period of interim status and until certification of final closure.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	47. Title 49 CFR parts 100-178, of 10-1-86, Other Regulations Relating to Transportation: Chapter I-Research and Special Programs Administration, Department of Transportation, prescribes the requirements of the DOT governing the transportation of hazardous material and the manufacture and testing of packaging and containers.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	48. ANSI/ASME NQA-1 "American National Standards Institute/American Society of Mechanical Engineers Nuclear Quality Assurance-1," sets forth requirements for the establishment and execution of quality assurance programs for the design, construction, operation, and decommissioning of nuclear facilities.	None	Standards Document. Incorporated if appropriate by reference in the Manual or in Guidance.			
	49. Atomic Energy Act of 1954, as amended 42 U. S. C. §§ 2011-2292 (1982) which authorizes and directs the Atomic Energy Commission to produce special nuclear material in its own facilities to produce atomic weapons or atomic weapons parts and to research and develop military applications of atomic energy.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
	50. Nuclear Waste Policy Amendments Act of 1987 (part of the Budget Reconciliation Act for FY 1988 Public Law 100-203), of December 22, 1987, streamlines and focuses the high level waste management program established by the Nuclear Waste Policy Act.	O.4.b	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
O.7	DEFINITION. (See Attachment 2.)	M.6	DEFINITIONS. Definitions for DOE M 435.1-1, Radioactive Waste Management Manual, are provided in Attachment 2. (Definitions crosswalk table is presented following this crosswalk table)			

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O.8	RESPONSIBILITIES. 1. Assistant Secretary for Defense Programs (DP-1) has authority for establishing policy for the management of DOE waste and assuring that DOE waste generated by operations and activities under DP- 1 cognizance, or any other waste within the purview of DP-1, is managed according to the requirements of this Order. DP-1 also has general responsibility for assuring that DP-1 programmatic decisions include waste management considerations when appropriate.	O.5 M.I.2 M.I.2 A	RESPONSIBILITIES All DOE elements as specified in 3.a are responsible for implementing the requirements of this Order. See DOE M 435.1-1, Radioactive Waste Management Manual, for specific responsibilities. RESPONSIBILITIES Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
	b. Director of Defense Waste and Transportation Management (DP-12) is charged with carrying out DP-1 waste management responsibilities for oversight of the waste management complex, for interpreting waste management policy, and for implementing the requirements of this Order for waste management facilities and operations funded by DP-12.	M.I.2.B M.I.2.D M.I.2.E	Assistant Secretary for Environmental Management. The Assistant Secretary for Environmental Management is responsible for: (1) Complex-Wide Radioactive Waste Management Programs. (Full text not included) (2) Changes to Regulations and DOE Directives. (Full text not included) Deputy Assistant Secretary for Waste Management. The Deputy Assistant Secretary for Waste Management is responsible for: (1) Complex-Wide Radioactive Waste Management Program Plans. (Full text not included) (2) Waste Management Data System. (Full text not included) Deputy Assistant Secretaries for Waste Management and Environmental Restoration. The Deputy Assistant Secretary for Waste Management and the Deputy Assistant Secretary for Environmental Restoration are responsible, within their respective programs, for: Disposal. (Full text not included) Site Closure Plans. (Full text not included)			

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O.8	c. Director of Civilian Radioactive Waste Management (RW-1) is responsible for selected research and development, siting, construction, operation, and management activities assigned to the Secretary of Energy by the Nuclear Waste Policy Act of 1982 (Public Law 97-425) for the interim storage and disposal of high-level waste and spent nuclear fuel.	M.1.2.A	Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
	d. Assistant Secretary for Nuclear Energy (NE-1) is responsible for assuring that waste generated by operations funded by NE-1 is managed according to the requirements of this Order and that NE-1 program decisions include waste management considerations, as appropriate.	M.1.2.A	Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
	1. Assistant Secretary for Environment, Safety and Health (EH-1) is responsible for providing an independent overview of DOE radioactive waste management and decommissioning programs to determine compliance with DOE environment, safety, and health requirements and applicable Environmental protection Agency (EPA) and state regulations.	1.2.C.	Assistant Secretary for Environment, Safety, and Health. The Assistant Secretary for Environment, Safety and Health is responsible for providing an independent overview of DOE radioactive waste management and decommissioning programs to determine compliance with DOE environment, safety, and health requirements and applicable Environmental Protection Agency (EPA) and state regulations, including: (1) Advising the Secretary of the status of Departmental compliance with the requirements of DOE O 435.1, this Manual, and applicable provisions of other DOE Orders. (2) Conducting independent appraisals and audits of DOE waste management programs. (3) Reviewing site Waste Management Plans with regard to compliance with DOE environment, safety, and health requirements.			
	f. Director, Naval Nuclear Propulsion Program: Executive Order 12344, statutorily prescribed by PL98-525 (42 USC 7158 note), establishes the responsibilities and authority of the Director, Naval nuclear Propulsion Program (who is also the Deputy Assistant Secretary for Naval Reactors within the Department) over all facilities and activities which comprise the Program, a joint Navy-DOE organization. The policy principle promoted by these executive and	O.3.d	Exemptions. This Order does not apply to certain DOE programs, facilities, or activities as described below. (1) This Order does not apply to activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1985, Public Law 98-525.			

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0.8	legislative actions is cited in the Executive Order as "... preserving the basic structure, policies and practices developed for this Program in the past...". Accordingly, The Naval Propulsion Program is exempt from the provisions of this Order. The Director shall maintain an environmental protection program to assure compliance with applicable environmental statutes and regulations The Director and EH-1 shall exchange information and cooperate as appropriate to facilitate exercise of their respective responsibility.	0.3.d Cont.				
	g. Directors of other Headquarters Program Organizations are responsible for implementing the requirements of this Order for all DOE waste generated by their programs utility is transferred to a DOE or licensed storage/disposal site. For all contaminated facilities under their jurisdiction, they are responsible for assuring that their programmatic decisions include waste management considerations, as appropriate, and for implementing the requirements of other applicable DOE Orders for their waste management programs.	M.1.2.A	Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
	h. Office of General Counsel(GC-1) provides legal advice to program organizations regarding DOE waste management and decommissioning activities involving DOE-owned and privately owned sites; renders legal opinion on DOE authority to undertake remedial action and other waste management activities; and renders legal opinions on, and concurs in, program actions to comply with the National Environmental Policy Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Superfund Amendments and Reauthorization Act, and other legal authorities in conjunction with proposed waste management and decommissioning activities.	None	Maintains these programmatic responsibilities, and they do not need to be included in DOE O 435.1.			
	i. Assistant Secretary, Management and Administration (MA-1) is responsible providing contractual and business advice to program organizations regarding DOE waste management activities including use of DOE management and operating contractors in such activities.	M.1.2.A	Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			

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O.8	1. Heads of Field Organizations are responsible for all activities that affect storage, or disposal of waste in facilities under their jurisdiction regardless of where the waste is generated. Heads of field organizations with treatment, storage or disposal facilities responsibility have the authority for establishing waste management requirements at that facility (e.g., setting waste acceptance criteria, waste certification, verification of contents of waste shipped or to be shipped, concurring in waste reduction plans). In addition, they are responsible for assuring that the day-to-day waste management and surplus facility operations at their sites are conducted in compliance with the requirements of this Order and comply with all applicable Federal, State, and local statutes. Specific responsibilities include the following: [Items (1) through (10) of this section]	M.I.2.F	Field Element Managers. Field Element Managers are responsible for: [Full text not included] 1. Site-Wide Radioactive Waste Management Programs 2. Radioactive Waste Management Basis 3. Waste Minimization and Pollution Prevention 4. Approval of Exemptions for Use of Non-DOE Facilities 5. Environmental Restoration, Decommissioning, and Other Cleanup Waste 6. Radioactive Waste Acceptance Requirements 7. Radioactive Waste Generator Requirements 8. Closure Plans 9. Defense-In-Depth 10. Oversight 11. Training and Qualification 12. As Low As Reasonably Achievable (ALARA) 13. Storage 14. Treatment 15. Disposal 16. Monitoring 17. Material and Waste Declassification for Waste Management 18. Waste Incidental to Reprocessing 19. Waste With No Identified Path to Disposal 20. Corrective Actions	1) Category 4, Support/review site-wide radioactive waste management program. 8) Category 1, per P. McCarthy 13) Category 4, See M.IV.N., (R. Tucker)		$9 K
O.8	k. Manager of Albuquerque Operations Office is responsible, in addition to the responsibilities identified in paragraph 8j, for use of certified packaging, standard containers, transportation, waste acceptance Criteria, and all other aspects related to transuranic waste emplacement at the Waste Isolation Pilot Plant. Within the Albuquerque Operations Office, a standing committee, the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee, is responsible for review, audit, and approval of generator transuranic waste certification programs and activities. The Manager of the Albuquerque Operations Office, as Head of the Waste Isolation Pilot Plant project office, also has responsibility for the design, construction, technology development, and operational activities leading to permanent isolation of transuranic waste from the biosphere.	None	The duties of the Albuquerque Operations Office Manager included in this 5820.2A requirement will be assigned as necessary in the Complex-Wide Transuranic Waste Management Program required in M.III.C.	• 5820.2A on contract		

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O.9	EXEMPTIONS. Exemptions from the requirements of this Order may be granted only with the approval of DP-12 in consultation with EH-1. New or alternate waste management practices that are based on appropriate documented safety, health protection, and economic analyses may be proposed by field organizations and adopted with the approval of DP-12 and EH-1.	M.4	IMPLEMENTATION. The requirements of this Manual apply to all new and existing DOE radioactive waste management facilities, operations, and activities. Implementation of the requirements shall begin at the earliest possible date, and all DOE entities shall be in compliance with this directive within one year of its issuance. Compliance with this directive includes implementing the requirements or an approved implementation or corrective action plan. If compliance with this Order cannot be achieved within one year of its issuance, the Field Element Manager must request approval to extend the compliance date to no later than October 1, 2001, from the cognizant Program Secretarial Officer (PSO). Failure to implement the requirements of this directive shall, through the appropriate lines of management, result in corrective actions including, if necessary, shutdown of radioactive waste management facilities, operations, or activities until the appropriate requirements are implemented. Any of the requirements in this Manual may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, the applicable or relevant and appropriate requirements identification process for actions taken pursuant to the Department's CERCLA authorities, or by an exemption processed in accordance with the requirements of DOE O 251.1-1A, Directives System Manual.	• P 450.3 not on contract – impact TBD (HOTAREK) • M 450.3-1 not on contract – impact TBD (HOTAREK) • P 450.4 not on contract – impact TBD (HOTAREK) • M 251.1-1A not on contract—order is; impact TBD (HOTAREK) • Category 4 – Completion of the "gap analysis and implementation plan" by July 2000, and execution of the plan post-2000 are required. Specific resource requirements, both pre-and post-July 2000 are documented throughout this cross-walk.		
O.10	IMPLEMENTING PROCEDURES AND REQUIREMENTS. Within 6 months of the date of issuance of this Order, Heads of Field Elements shall prepare and submit to appropriate Headquarters program organizations an implementation plan describing schedules, costs, and quality assurance activities for compliance with the requirements of this Order with copies to EH-1 for review and comment. Specific guidance for the plan will be issued by DP-12 under separate cover. Thereafter, the status of compliance with the requirements of this Order shall be reported to the appropriate Headquarters program organization in the annual update of the Waste Management Plans.	M.4	IMPLEMENTATION. The requirements of this Manual apply to all new and existing DOE radioactive waste management facilities, operations, and activities. Implementation of the requirements shall begin at the earliest possible date, and all DOE entities shall be in compliance with this directive within one year of its issuance. Compliance with this directive includes implementing the requirements or an approved implementation or corrective action plan. If compliance with this Order cannot be achieved within one year of its issuance, the Field Element Manager must request approval to extend the compliance date to no later than October 1, 2001, from the cognizant Program Secretarial Officer (PSO).	• P 450.3 not on contract – impact TBD (HOTAREK) • M 450.3-1 not on contract – impact TBD (HOTAREK) • P 450.4 not on contract – impact TBD (HOTAREK) • M 251.1-1A not on contract—order is; impact TBD (HOTAREK) Category 4 – see previous impact statement		

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O.10 Cont.		M.4 Cont.	Failure to implement the requirements of this directive shall, through the appropriate lines of management, result in corrective actions including, if necessary, shutdown of radioactive waste management facilities, operations, or activities until the appropriate requirements are implemented. Any of the requirements in this Manual may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, the applicable or relevant and appropriate requirements identification process for actions taken pursuant to the Department's CERCLA authorities, or by an exemption processed in accordance with the requirements of DOE O 251.1-1A, Directives System Manual.			
O.11	CLEARANCE UNDER THE PAPERWORK REDUCTION ACT OF 1980. This directive has been determined to contain information collections under the provisions of 5 CFR 1320, "Controlling Paperwork Burdens on the Public." The Office of Management and Budget (OMB) has issued a clearance to the Department (OMB No. 1910-0900) for these information collections. Waste acceptance criteria shall be established for each low-level waste treatment, storage, and disposal facility, and submitted to the cognizant field organization.	None	Office of Management and Budget clearance under 5 CFR Part 1320 not required for information collections internal to Department activities and operations.	Category 1 – no impact		
Chapter VI	WASTE MANAGEMENT PLAN OUTLINE	M.1.2.D.	Deputy Assistant Secretary for Waste Management. The Deputy Assistant Secretary for Waste Management is responsible for: 1. Complex-Wide Radioactive Waste Management Program Plans. Developing, implementing, and maintaining integrated Complex-Wide Radioactive Waste Management Program Plans for high-level, transuranic, low-level, and mixed low-level waste. Each plan shall, at the DOE complex-wide level, describe the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat and dispose of radioactive waste in a manner that is protective of the public, workers, and the environment. In addition, the plans shall:	Category 1 – no impact Per discussions with Don Wodrick, DOE-HQ has already issued a draft complex-wide plan for HLW. No further work is anticipated at this time.		

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Chapter VI Cont.		M.1.2.D. Cont. M.1.2.F.	1. Present a waste management strategy that integrates waste projections and life-cycle waste management planning into complex-wide facility configuration decisions; and 1. Describe the approach to research and technology development being pursued to improve safety and/or efficiency in managing radioactive waste. Field Element Managers. Field Element Managers are responsible for: (1) Site-Wide Radioactive Waste Management Programs. Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	Category 1 – no impact The TWRS Mission Analysis Report (HNF-SD-WM-MAR-008, Rev. 3), the TWRS Program Plan (HNF-1883, Rev. 1), the TWRS Retrieval and Disposal Mission Technical Baseline Summary Description (HNF-1901, Rev. 0), and the current Multi-Year Work Plan provide the documentation of Hanford's HLW Management Program. These documents are being revised and expanded in preparation for the decision to proceed with privatization of HLW vitrification facilities.		
	The remaining DOE O and M 435.1-1 requirements have no predecessor requirements in DOE 5820.2A.	M.5	REVISIONS. Systematic planning, execution, and evaluation of radioactive waste management facilities, operations, and activities will provide the basis for evaluating the adequacy of and, if necessary, revising the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. The revision process will be based on DOE P 450.4, Safety Management System Policy, and will implement continuous improvement for management of radioactive waste. The process includes: identifying the functions necessary to execute radioactive waste management responsibilities; conducting an analysis of the hazards associated with performing those functions; developing and implementing the proper controls to mitigate any associated hazards; developing and implementing a periodic assessment of work performance; and providing feedback to revise the work processes and incorporate lessons learned, as appropriate. Administrative requirements of the Order and Manual will be revised as needed to support safe and efficient waste management.	N/A, since it is assumed to be a DOE-HQ's activity with little or no input from the field offices; development of waivers and exemptions will feed into this process.		
		M.1.1.A.	Delegation of Authority. Managers charged with responsibilities within this Manual may delegate authority for these tasks to another manager. All delegations of authority shall be documented.	N/A		

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		M.1.1.B.	Use of Guidance. Additional information supporting the requirements in this Manual is contained in the Implementation Guide for use with DOE M 435.1-1, Radioactive Waste Management Manual. This Guide, DOE G 435.1-1, Implementation Guide for DOE M 435.1-1, shall be reviewed when implementing the requirements of this Manual. The Guide provides additional information and acceptable methods for meeting the requirements. Other methods may be used but must ensure an adequate level of safety commensurate with the hazards associated with the work and be consistent with the radioactive waste management basis.	Category 4 - Review guidance document to better understand intent of HLW/TRU determinations, and waste certification process.	$18 K	
		M.1.1.E	Requirements of Other Regulations and DOE Directives. (1) Analysis of Operations Information. Data that measure the environment, safety, and health performance of radioactive waste management facilities, operations, and activities shall be identified, collected, and analyzed as required by DOE O 210.1, Performance Indicators and Analysis of Operations Information. (2) Classified Waste. Radioactive waste to which access has been limited for national security reasons and cannot be declassified shall be managed in accordance with the requirements of DOE 5632.1C, Protection and Control of Safeguards and Security Interests, and DOE 5633.3B, Control and Accountability of Nuclear Materials. (4) Criticality Safety. Radioactive waste management facilities, operations, and activities shall be covered by a criticality safety program in accordance with DOE O 420.1, Facility Safety. (16) Safeguards and Security. Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, Safeguards and Security Program.	• 420.1 on contract with change 2 (DOE C420.1 CRD) - impact TBD (HOTAREK) • M 411.1-1 not on contract – impact TBD (HOTAREK) No impact, per V. Boyles/C. Rogers; DOE O 420.1 is being followed		

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		M.1.1.E Cont.	(4) Safety Management System. Radioactive waste management facilities, operations, and activities shall incorporate the principles of integrated safety management as described in DOE P 450.4, Safety Management System Policy, and DOE P 450.5, Line Environment, Safety and Health Oversight, and meet the requirements of the safety management systems sections of 48 CFR Chapter 9, Department of Energy Acquisition Regulations and DOE M 411.1-1, Manual of Safety Management Functions, Responsibilities, and Authorities. (21) Worker Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees.			
		M.1.2.G.	All Personnel. All personnel are responsible for: (1) Problem Identification. Identifying and reporting radioactive waste management facilities, operations, or activities that do not meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual, or that pose a threat to the safety of the public, workers, or the environment. (2) Shutdown or Curtailment of Activities. Stopping or curtailing work, through the appropriate level of management, to prohibit continuation of conditions or activities which pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	Category 1 – no impact		
Chapter V	DECOMMISSIONING OF RADIOACTIVELY CONTAMINATED FACILITIES	None	Decommissioning of facilities is not within the scope of DOE O 435.1. Decontamination and decommissioning of facilities is covered by DOE O 430.1A, Life Cycle Asset Management.	• O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
CHAPTER II – SECTION BREAK						

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I.1.	Purpose. To establish policies and guidance for managing the Department of Energy's (DOE) high-level waste and any other materials which, because of their highly radioactive nature (level of health risk, longevity of health risk and thermal activity), require similar handling. (Unless demonstrated to the contrary, all high-level waste shall be considered to be radioactive mixed waste and subject to the requirements of the Atomic Energy Act, as amended, and the Resource Conservation and Recovery Act.)	I. II.C.(1) I.1.E.(10)	Purpose: This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment. Management of Specific Wastes. The following provide for management of specific wastes as high-level waste in accordance with the requirements in this Chapter: (1) Mixed High-Level Waste. Unless demonstrated otherwise, all high-level waste shall be considered mixed waste and is subject to the requirements of both the Atomic Energy Act of 1954, as amended, the Resource Conservation and Recovery Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual. Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	Category 1 – Assumed it's covered by RCRA Category 5 – Potentially will need to seek a waiver, since order/manual does not clarify whether radioactive HLW is handled in the same way as RCRA – listed waste, e.g. mixtures rule, derived form waste.	$12 K	
I.2.	Policy. All high-level waste generated by DOE operations shall be safely stored, treated, and disposed of according to requirements set forth in this Order. Storage operations shall comply with applicable EPA standards and EPA/State regulations. Geologic disposal shall comply with both Nuclear Regulatory Commission regulations and EPA Standards.	Order 4.b.	Radioactive waste shall be managed to: (1) Protect the public from exposure to radiation from radioactive materials. Requirements for public radiation protection are in DOE 5400.5, Radiation Protection of the Public and the Environment.	CATEGORY 1 EXCEPT WHERE NOTED • 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5400.1 on contract • 440.1A and CRD 440.1 on contract • 10 CFR Part 835 impact TBD (HOTAREK)		

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I.2. Cont.		Order 4.b. Cont.	(2) Protect the environment. Requirements for environmental protection are in DOE \$5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment. (3) Protect workers. Requirements for radiation protection of workers are in 10 CFR Part 835, Occupational Radiation Protection; requirements for industrial safety are in DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees. (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
		Order 4.c.	All radioactive waste shall be managed in accordance with the requirements in DOE M 435.1-1, Radioactive Waste Management Manual.	CATEGORY 4 – The costs of performing the gap analysis and writing/executing an implementation plan for DOE Order 435.1 and it's Manual are documented in throughout this cross-walk.		
		1.1.E.(10)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.			
		II.S.	Disposal. Disposal of high-level waste must be in accordance with the provisions of the Atomic Energy Act of 1954, as amended, the Nuclear Waste Policy Act of 1982, as amended, or any other applicable statutes.			
I.3.a(1)(a)	Requirements for New Facilities. (a) Design objectives for new facilities will assure protection of the public and operating personnel from hazards associated with normal high-Level Waste operations, accident conditions, and the effects of natural phenomena. Other objectives are compliance with DOE policies regarding nuclear safety, quality assurance, fire protection, pollution control, and safeguards and security protection for high-level waste and protection of essential operations from the effects of potential accidents.	II.P.(2)(a)	Safety (Safety Class and Safety-Significant) Structures, Systems, and Components. Safety Structures, systems and components for high-level waste storage, pretreatment, and treatment facilities shall be designated and designed consistent with the provisions of DOE O 420.1, Facility Safety; DOE 5480.22, Technical Safety Requirements; and DOE 5480.23, Nuclear Safety Reports.	CATEGORY 1, per T.Oten • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5480.23 on contract with change 1 – impact TBD (HOTAREK) • O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		

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		I.1.E.(18)	Site Evaluation and Facility Design. New radioactive waste management facilities , operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.			
		I.1.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.			
		I.1.E.(16)	Safeguards and Security. Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, Safeguards and Security Program.			
		I.1.E.(20)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.	• Executive Orders 12856 and 13101 impact TBD – (HOTAREK) • 5400.1 on contract • RW-0333P in contract		
		II.G	Quality Assurance Program. The following requirements are in addition to those in Chapter I of this Manual. (1) Product Quality. The requirements of RW-0333P, Quality Assurance Requirements and Description, shall apply to those high-level waste items and activities important to waste acceptance/product quality. (2) Audits and Assessments. The evaluation and assessment requirements of RW-0333P, Quality Assurance Requirements Document and Description, and associated implementing procedures shall be met for high-level waste acceptance and product quality activities, in addition to the assessment requirements of other DOE directives and requirements identified in Chapter I of this Manual.			

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I.3.a.(1)(b)	Designs for new storage and treatment facilities shall meet the requirements of DOE 6430.1, applicable EH Orders and 40 CFR 264.	I.1.E.(10)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	CATEGORY 1 – assumed it's covered by RCRA		
I.3.a.(1)(b)	Designs for new storage and treatment facilities shall meet the requirements of DOE 6430.1, applicable EH Orders and 40 CFR 264.	I.1.E.(18)	Site Evaluation and Facility Design. New radioactive waste management facilities , operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE 430.1A, Life-Cycle Asset Management	CATEGORY 1 – no impact (G. Parsons) • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
I.3.a.(1)(b)	Designs for new storage and treatment facilities shall meet the requirements of DOE 6430.1, applicable EH Orders and 40 CFR 264.	II. P.(2) (a) through (j)	Facility Design. Note: The design requirements at Section II.P.(2) (a) through (j) are in addition to those required in the General Requirements Chapter of DOE M 435.1-1 and apply to new and existing high-level waste management facilities, unless the requirement specifies otherwise.	ALL SECTIONS WERE EVALUATD AS CATEGORY 1, PER T. OTEN • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK)		
I.3.a.(1)(c)	Designs for new storage facilities shall incorporate features to facilitate retrieval capability.	II. P.(2)(g)	Facilities for Receipt and Retrieval of High-Level Waste. 1. Designs for storage facilities shall incorporate features to facilitate retrieval capability. 2. High-level waste receipt and retrieval systems shall be designed to complement the existing storage facilities for safe storage and transfer of high-level waste.	CATEGORY 1, per T. Oten		
I.3.a.(2)	Design Review for Existing Facilities. Uniform requirements for the preparation of safety analysis reports for high-level waste operations, detailed in DOE 5481.1B, include the review of existing operational facilities based on current technical criteria. When hazards are identified that should be eliminated, controlled, or mitigated, appropriate upgrading, actions in accordance with paragraph 3a(1) above, shall be identified and implemented according to the requirements of DOE 5481.1B.	I.1.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	CATEGORY 1 – No impact: Requirements already imbedded in the FSAR. • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • DOE-STD-1027-92 not on contract, but being adhered to • DOE-EM-STD-5502-94 not on contract, but being adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5480.23 on contract with change 1 – impact TBD (HOTAREK) • 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • 4330.4B on contract		

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I.3.a.(2) Cont.		I.1.E.(9)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.	CATEGORY 1 – No impact: Requirements already imbedded in the FSAR. • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • DOE-STD-1027-92 not on contract, but being Compliance analysis previously provided.		
		I.1.E.(18)	Site Evaluation and Facility Design. New radioactive waste management facilities , operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE 430.1A, Life-Cycle Asset Management.	CATEGORY 1 – no impact (G. Parsons)		
		II.P.(2)(a)	Safety (Safety Class and Safety-Significant) Structures, Systems, and Components. Safety Structures, systems and components for high-level waste storage, pretreatment, and treatment facilities shall be designated and designed consistent with the provisions of DOE O 420.1, Facility Safety; DOE 5480.22, Technical Safety Requirements; and DOE 5480.23, Nuclear Safety Reports.	CATEGORY 1, per T. Oten		
I.3.b.(1)(a)	Liquid and solidified high-level waste shall be characterized consistent with radiation protection requirements to determine its hazardous components, per 40 CFR 261 and 40 CFR 264. Characterization shall satisfy requirements of paragraph 3b(1) (b) and may reflect knowledge of waste generating processes, laboratory testing results, and/or the results of periodic sampling and analysis. Examples of required information are chemical composition, physical properties, radionuclide concentrations, and PH.	II. L.	Waste Characterization. High-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste:	• DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK) Category 4; Support waste compatibility assessments and review guidance required for characterization effort		$15 K

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I.3.b.(1)(a) Cont.		II. L. Cont.	(a) Physical and chemical characteristics; (b) Volume, including the waste and any solidification media; (c) Radionuclides or source information sufficient to describe the approximate radionuclide content of the waste; and (d) Any other information which may be needed to demonstrate compliance with the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste. (3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.			
I.3.b.(1)(b)	Waste characteristics and compatibility information shall be documented in a safety analysis report (see DOE 5481.1B) and be used as a basis for designing new facilities.	I.1.E.(8) I.1.E.(10)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports. Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	CATEGORY I: Requirements already imbedded in the FSAR. • DOE-STD-1027-92 not on contract, but requirements adhered to • DOE-EM-STD-5502-94 not on contract, but requirements adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5480.23 on contract with change 1 – impact TBD (HOTAREK) CATEGORY 1 – no impact (M. Brown)		

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1.3.b.(2)(a)	All new high-level waste handling, transfer, and storage facilities (e. g., tanks, bins, pipelines, and capsules) shall be doubly contained.	II. P.(2)	Facility Design. The following facility design requirements, at a minimum, apply: (b) Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components: 1. Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system. 2. Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction.	Category 1, per T. Oten: Secondary confinement requirements are consistent with existing requirements. Category 1, per T. Oten: Tank and pipe systems are welded except where the systems are temporary in nature (salt well pumping) or require remote operation (jumpers).		
1.3.b.(2)(b)	Singly contained pipelines may be used routinely for liquid waste that has a total radioactivity concentration of less than 0.05Ci/gal(4. 9 x 1011 Bq/m3). They may be used on a temporary basis for higher activity waste, if appropriate design and administrative controls are in place to mitigate adverse effects from a pipeline failure.	None	This is a very prescriptive requirement for which there is no documented technical basis for the value (0.05 Ci/gal.) contained in the DOE 5820.2A requirement. DOE M 435.1-1, Section II.Q.(2)© addresses the concern of structural integrity of single-walled pipelines, and all pipelines, by requiring that their structural integrity be verified to assure leak tightness and structural strength, no matter the activity level.	• 5820.2A on contract		
1.3.b.(2)(c)	Leaking waste storage systems shall not be used to receive waste unless secondary containment is maintained. (e. g., liquid Level maintained below leak point) and it can be shown with the support of formal documentation (e. g., Safety Analysis Reports, Operational Safety Requirements, Operating Standards) that temporary operation can be performed without releasing radioactive Liquid to the environment.	None	The conditions for continued use of single wall and leaking tanks have been provided in the Manual. These conditions are established in two new requirements under Section II.Q., Storage. Section II.Q.1. addresses operation of confinement systems, and Section II.Q.(2)(a) addresses structural integrity requirements for tanks in-service that are leak tight, both single and double confinement. These tanks must demonstrate leak-tightness and structural strength. Furthermore, a projection of the remaining service life (leak-tightness and structural strength) must be made.			

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1.3.b.(2)(c) Cont.			Section II. Q. (2)(b)addresses the conditions for the continued use of leaking tanks both single and double confinement. For tanks that are known, or suspected, to leak, the structural integrity program must identify a safe operational envelope for each such tank to remain in service. This operational envelope may be specified in terms of capacity, waste properties, or both; and the time period for which the leak-tightness and structural strength can be assured for the safe operational envelope must be established. The requirement also specifies that the additional controls necessary to maintain the safe operational envelope be identified. Such controls may include periodic pumping to remove all pumpable liquid, keep the freeboard at specified levels, and/or periodicity for future structural integrity assessments.			
1.3.b.(2)(d)	Secondary containment systems shall be capable of containing liquids that leak into them from the primary system and shall be equipped with transfer capability to retrieve the leaked liquid. Secondary containment systems for solidified high-level waste shall provide for physical isolation of the waste from the environment.	II. P.(2)(b)	Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components: 1. Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system. 2. Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction.	Category 1, per T. Oten: Secondary confinement requirements are consistent with existing requirements. Category 1, per T. Oten: Tank and pipe systems are welded except where the systems are temporary in nature (salt well pumping) or require remote operation (jumpers).		

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		II.Q. II.Q.(2)	Storage. The following requirements are in addition to those in Chapter I of this Manual and also apply to facilities intended for management of high-level waste awaiting pretreatment, treatment, or disposal, unless stated otherwise. (1) Operation of Confinement Systems. (a) Confinement systems shall be operated and maintained so as to preserve the design basis. (b) Secondary confinement systems, where provided, shall be operated to prevent any migration of wastes or accumulated liquid out of the waste confinement systems. (c) Other Storage Components. The structural integrity of other storage components shall be verified to assure leak tightness and structural strength.			
		II.Q.(3)	Canistered Waste Form Storage. Canisters of immobilized high-level waste awaiting shipment to a repository shall be: (a) Stored in a suitable facility; (b) Segregated and clearly identified to avoid commingling with low-level, mixed low-level, or transuranic wastes; and (c) Monitored to ensure that storage conditions are consistent with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified immobilized high-level waste. Facilities and operating procedures for storage of vitrified high-level waste shall maintain the integrity of the canistered waste form.	CATEGORY 1 – no impact (K. Burgard) • DOE/EM-0093 and DOE/RW-0351P are not on contract		
1.3.b.(2)(e)	To the extent practical, waste shall be segregated by type (sludge, salt, high activity, and low activity) to make accessibility for future processing easier.	II. P.(2)(g)	Facilities for Receipt and Retrieval of High-Level Waste. 1. Designs for storage facilities shall incorporate features to facilitate retrieval capability. 2. High-level waste receipt and retrieval systems shall be designed to complement the existing storage facilities for safe storage and transfer of high-level waste.	CATEGORY 1, per T. Oten. Compliance with these requirements for new facilities will be demonstrated by the design documents. Compliance for existing facilities will require an evaluation of receipt/retrieval features of the facility.		

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		II.V.(2)	Operation of Facilities for Receipt and Retrieval of High-Level Waste. High-level waste receipt and retrieval systems shall be operated and maintained consistent with high-level waste system features incorporated in the facilities. Strategies for retrieval of waste shall be analyzed to ensure that structural and radiological impacts are consistent with the facility design basis.	Category 1 – no impact.		
I.3.b.(2)(f)	Where required, ventilation and filtration systems shall be provided to maintain radionuclide releases within the guidelines specified in DOE 5481.1B and applicable EH Orders. Ventilation systems shall be provided where the possibility exists for generating flammable and explosive mixtures of gases (e. g., hydrogen/air or organic/air).	II. P.(2)(d)	Ventilation. 1. Design of high-level waste pretreatment, treatment, and storage facilities shall include ventilation through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the applicable requirements. 2. When conditions exist for generating gases in flammable and explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	CATEGORY 1 – no impact (T. Oten)		
I.3.b.(2)(g)	Facilities using cathodic corrosion protection systems shall include engineered features that protect against abnormal conditions such as stray currents or system failure. The cathodic protection systems shall be calibrated annually, and all sources of impressed current shall be inspected and/or tested at least every other month.	II. Q.(2) II. Q.(2)(a)	Structural Integrity Program. Leak-Tight Tanks In-Service. A structural integrity program shall be developed for each high-level waste storage tank site to verify the structural integrity and service life of each tank to meet operational requirements for storage capacity. The program shall be capable of: 3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures;	Category 1 – no impact (V. Boyles)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		II.Q.(2)(b)	In-Service Tanks that Have Leaked or Are Suspect. For each high-level waste storage tank in-service that is known to have leaked, or is suspect, a modified structural integrity program shall be developed and implemented to identify the safe operational envelope. The modified program shall be capable of: 3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures;			
I.3.b.(2)(h)	Engineering controls shall be incorporated to provide liquid volume inventory data and to prevent spills, leaks, and overflows from tanks or containment systems. Examples are level-sensing devices, liquid level alarms, and maintenance of sufficient freeboard. The high-level waste shall be stored at pressures lower than those of ancillary systems (e.g., cooling water).	II. P.(2)(i) II. P.(2)(j) II.T.	Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of high-level waste treatment storage, pretreatment, and treatment facilities to provide volume inventory data and to prevent spills, leaks and overflows from tanks or confinement systems. Volume Monitoring Systems. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of high-level waste storage, pretreatment, and treatment facilities to provide rapid detection of failed confinement and/or other abnormal conditions. Monitoring. High-level waste pretreatment, treatment, storage, and transportation facilities shall be monitored for chemical, physical, radiological, structural, and other changes that could indicate failure of system confinement, integrity, or safety, and which could lead to abnormal events or accidents. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, flammable or explosive mixtures of gases, level and/or waste volume, and significant waste chemistry parameters for non-immobilized high-level waste. Facility monitoring programs shall also include physical inspections to verify that control systems have not failed.	CATEGORY 1 – no impact (T. Oten) CATEGORY 1 – no impact (T. Oten) Category 1 – no impact (V. Boyles)		
I.3.b.(2)(l)	Nuclear criticality safety considerations and controls shall be evaluated for normal operations and, before any significant operational changes are made, to protect against an uncontrolled nuclear criticality incident (e. g., dissolution of sludges for removal from tank).	I. .E.(4)	Criticality Safety. Radioactive waste management facilities, operations, and activities shall be covered by a criticality safety program in accordance with DOE O 420.1, Facility Safety.	CATEGORY 1 – no impact (V. Boyles/C. Rogers) • O 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK)		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.b.(2)(j)	Each facility shall utilize remote maintenance features and other appropriate techniques to minimize personnel radiation exposure in accordance with DOE 5481.1B.	II. P.(2)(f)	Maintenance Exposure Reduction. Remote maintenance features and other appropriate techniques to maintain as low as reasonably achievable (ALARA) personnel exposures shall be incorporated into each high-level waste facility.	CATEGORY 1 – no impact (T. Oten)		
I.3.b.(2)(k)	Upon loss and subsequent recovery of normal electrical power, high-level waste transfer equipment shall not have the capability to restart without active operator action.	None	This prescriptive requirement is unnecessary. The DOE M 435.1-1 performance-based requirements in Section II.P. (2)(a), Safety Structures, Systems, and Components, addresses safety and safety class systems, structures, and components, and encompass this as well as other prescriptive requirements regarding system safety. Additionally, the following DOE M 435.1-1 sections address the DOE 5820.2A concern:	• 5820.2A on contract		
		II.P.(2)(b)	Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components: 1. Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system. 2. Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction. Waste Transfer. The following requirements are in addition to those in Chapter I of this Manual.	Category 1 – no impact (T. Oten): Secondary confinement requirements are consistent with existing requirements. Category 1 – no impact (T. Oten): Tank and pipe systems are welded except where the systems are temporary in nature (salt well pumping) or require remote operation (jumpers).		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		II.N	(1) Authorization. High-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer. (2) Data. Waste characterization data and generation, storage, pretreatment, treatment, and transportation information for high-level waste shall be transferred with or be traceable to the waste. (3) Records and Transfer Reporting. The records and transfer requirements for canistered high-level waste forms shall comply with DOE/EM-0093, Waste Acceptance Product Specification for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	(1) Category 1 – no impact (2) Category 1 – no impact (V. Boyles) (3) Category 1 – no impact (K. Burgard) DOE/EM-0093 and DOE/RW-0351P are not on contract		
I.3.b.(3)(a)	Monitoring and Leak detection capability shall be incorporated in the engineering systems (e. g., Liquid Level sensing devices and alarms for high-level waste liquid systems) to provide rapid identification of failed containment, and measurement of abnormal temperatures. The following, at a minimum, shall be monitored: temperature; pressure; radioactivity in ventilation exhaust; and Liquid effluent streams associated with high-Level Waste facilities. Where the possibility exists for the generation of flammable and explosive mixtures of gases, monitoring shall be conducted. For facilities storing liquid high-level waste, the following should also be monitored: liquid levels; sludge volume; tank chemistry; condensate and cooling water.	II. P.(2)(i) II. P.(2)(j) II. T.	Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of high-level waste treatment storage, pretreatment, and treatment facilities to provide volume inventory data and to prevent spills, leaks and overflows from tanks or confinement systems. Volume Monitoring Systems. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of high-level waste storage, pretreatment, and treatment facilities to provide rapid detection of failed confinement and/or other abnormal conditions. Monitoring. High-level waste pretreatment, treatment, storage, and transportation facilities shall be monitored for chemical, physical, radiological, structural, and other changes that could indicate failure of system confinement, integrity, or safety, and which could lead to abnormal events or accidents. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, flammable or explosive mixtures of gases, level and/or waste volume, and significant waste chemistry parameters for non-immobilized high-level waste. Facility monitoring programs shall also include physical inspections to verify that control systems have not failed.	CATEGORY 1 – no impact (T. Oten) CATEGORY 1 – no impact (T. Oten) Category 1 – no impact (V. Boyles)		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.b.(3)(b)	Leak detection systems (e. g., conductivity probes) shall be designed and operated so that they will detect the failure of the primary containment boundary, the occurrence of waste release, or accumulated liquid in the secondary containment system.	II. P.(2)(i)	Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of high-level waste treatment storage, pretreatment, and treatment facilities to provide volume inventory data and to prevent spills, leaks and overflows from tanks or confinement systems.	CATEGORY I – no impact (T. Oten)		
		II. P.(2)(j)	Volume Monitoring Systems. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of high-level waste storage, pretreatment, and treatment facilities to provide rapid detection of failed confinement and/or other abnormal conditions.	CATEGORY I, per T. Oten		
		II. P.(2)(b)	Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components:			
			1. Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system.	Category I: Secondary confinement requirements are consistent with existing requirements, per T. Oten		
			2. Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction.	Category I, per T. Oten: Tank and pipe systems are welded except where the systems are temporary in nature (salt well pumping) or require remote operation (jumpers).		
		II.Q.(1)	Operation of Confinement Systems. (a) Confinement systems shall be operated and maintained so as to preserve the design basis. (b) Secondary confinement systems, where provided, shall be operated to prevent any migration of wastes or accumulated liquid out of the waste confinement systems.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		II.T.	Monitoring. High-level waste pretreatment, treatment, storage, and transportation facilities shall be monitored for chemical, physical, radiological, structural, and other changes that could indicate failure of system confinement, integrity, or safety, and which could lead to abnormal events or accidents. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, flammable or explosive mixtures of gases, level and/or waste volume, and significant waste chemistry parameters for non-immobilized high-level waste. Facility monitoring programs shall also include physical inspections to verify that control systems have not failed.	Pete Hopkins		
I.3.b.(3)(c)	A method for periodically assessing waste storage system integrity (e. g., coupons for corrosion testing, photographic and periscope inspections, leak detectors, liquid level devices) shall be established, documented, and reported as required in the Waste Management Plan.	II. Q.(2)	Structural Integrity Program. (a) Leak-Tight Tanks In-Service. A structural integrity program shall be developed for each high-level waste storage tank site to verify the structural integrity and service life of each tank to meet operational requirements for storage capacity. The program shall be capable of: (b) Verifying the current leak-tightness and structural strength of each tank in service; 2. Identifying corrosion, fatigue, and other critical degradation modes; 3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures; 4. Providing credible projections as to when structural integrity of each tank can no longer be assured; and 5. Identifying the additional controls necessary to maintain an acceptable operating envelope.	Category 1, per T. Oten Category 1, per T. Oten		
I.3.b.(3)(c) Cont.		II. Q.(2) (Cont.)	(b) In-Service Tanks that Have Leaked or Are Suspect. For each high-level waste storage tank in-service that is known to have leaked, or is suspect, a modified structural integrity program shall be developed and implemented to identify the safe operational envelope. The modified program shall be capable of:	Category 1, per T. Oten		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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			(b) Verifying the structural strength of each tank in-service which has leaked or is suspect;	Category 1, per T. Oten		
			2. Identifying corrosion, fatigue and other critical degradation modes;	Category 1, per T. Oten		
			3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures;			
			4. Determining which of the tanks that have leaked or are suspect may remain in service by identifying an acceptable safe operating envelope;	Category 1, per T. Oten		
			5. Providing credible projections as to when the acceptable safe operational envelope can no longer be assured; and			
			6. Identifying the additional controls necessary to maintain the acceptable safe operational envelope.			
			When physical activities, as part of a structural integrity program, pose additional vulnerabilities, alternative measures shall be implemented to provide an acceptable storage operational envelope.			
			(c) Other Storage Components. The structural integrity of other storage components shall be verified to assure leak tightness and structural strength.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
1.3.b.(3)(d)	Electrical monitoring and Leak detection devices essential to safe operations shall be provided with backup power, as appropriate, to ensure operability under emergency conditions.	None I.1.E.(8) I.1.E.(18)	This prescriptive requirement is unnecessary. The DOE M 435.1-1 performance-based requirement at paragraph II P (2) (a), which addresses safety and safety class systems, structures, and components, encompass this O 5820.2A requirement. Additionally the following DOE Orders cited in DOE M 435.1-1 provide defense-in-depth: Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports. Site Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.	• 5820.2A on contract • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • DOE-STD-1027-92 not on contract but being addressed to • DOE-EM-STD-5502-94 not on contract • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5480.23 on contract with change 1 – impact TBD (HOTAREK) • O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
1.3.b.(3)(e)	Surface water systems associated with the high-Level Waste storage area shall be monitored according to applicable National Pollution Discharge Elimination System permits and EH Order requirements.	None	This prescriptive requirement is unnecessary. Permitting requirements are not within the established scope of this Order. DOE M 435.1-1 provides a list of other appropriate regulations and directives in Chapter I, paragraph I.E., for example, Section I.1.E.(7), Environmental Monitoring.			
1.3.b.(3)(f)	A system of ground water or vadose zone monitoring wells meeting the Resource Conservation and Recovery Act requirements per 40 CFR 264 shall be installed, as a minimum, around clusters of liquid waste storage tanks.	None	This prescriptive requirement is unnecessary. Permitting requirements are not within the established scope of this Order. DOE M 435.1-1 provides a list of other appropriate regulations and directives in Chapter I, paragraph I.E., for example Section I.1.E.(7), Environmental Monitoring. Additionally, Section II.C.(1), Mixed High-Level Waste, invokes RCRA for high-level waste, unless demonstrated otherwise.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.b.(4)(a)	A tank or secondary containment system from which there has been a leak or a spill to the surrounding soil, or which is otherwise unfit for use, shall be removed from service until conditions can be evaluated fully.	None	This prescriptive requirement is unnecessary. The related safety concerns are addressed in DOE M 435.1-1, Section II.Q.(2). This performance based requirement. Addresses structural integrity for tanks in-service and for other components of the storage system. Single shell tanks must demonstrate leak-tightness and structural strength. Furthermore, a projected service life (leak-tightness and structural strength) must be made. For tanks that are known, or suspected, to leak, the structural integrity program must identify the safe operational envelope for each such tank. This operational envelope may be specified in terms of capacity, waste properties, or both; and, the time period for which the safe operational envelope can be assured must be established. The requirement also specifies that the additional controls necessary to maintain the safe operational envelope be identified. Such controls may include periodic pumping to remove all pumpable liquid, keep the freeboard at specified levels, and/or periodicity for future structural integrity assessments.			
		I.2.F.(20)	Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	Category 1 – n o impact		
		II.I.	Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	Category 1 – no impact		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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1.3.b.(4)(b)	Upon detection of released radioactive materials, steps shall be taken to prevent further migration of the release to soil or surface water. Major contamination in the soil shall be removed or stabilized unless compliance with this requirement would cause greater harm to human health or the environment.	None	DOE O 151.1, Comprehensive Emergency Management System, cites the discovery of releases of radioactive waste as an "Operational Emergency Events and Condition", Chapter V, paragraph 2.(a)(1), that is covered by that Order. DOE M 435.1-1, Section 1.1.E.(5) requires that radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.. Released material is not considered radioactive waste to be managed as defined in DOE M 435.1-1, Chapter I, Attachment 1, Glossary, and as such, are not within the scope of DOE O 435.1. DOE O 435.1 and DOE M 435.1-1 set forth the requirements that DOE and its contractors must follow in managing radioactive waste to protect workers, the public, and the environment from radiological exposures. In the context of "managing" radioactive waste, these directives apply to waste in storage, treatment, and disposal (except the disposal of high-level waste in the NRC-regulated geologic repository and disposal of transuranic waste at the WIPP, both of which are covered by other regulations). These directives all have as their objective promoting practices that preclude the uncontrolled release of radioactive material, such as from leaking tanks. However, remediation of past or future uncontrolled releases are not within the scope of DOE O 435.1 and DOE M 435.1-1 and are generally conducted under the CERCLA process. Thus the DOE 5820.2A requirement at 1.3.b.(4)(b) regarding the remediation of released material has not be retained in DOE M 435.1-1.	• 5820.2A on contract • O151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
1.3.b.(4)(b) Cont.	Upon detection of released radioactive materials, steps shall be taken to prevent further migration of the release to soil or surface water. Major contamination in the soil shall be removed or stabilized unless compliance with this requirement would cause greater harm to human health or the environment.	1.2.F.(20)	Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	Category 1 – no impact		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		II.I.	Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	Category 1 – no impact		
I.3.b.(4)(c)	If a release results from a spill and the integrity of the system is not damaged, the system may be returned to service as soon as action to correct the condition is completed	I.2.F.(20)	Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.			
		II.I.	Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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I.3.b.(4)(d)	For emergency situations involving liquid high-level waste, spare capacity with adequate heat dissipation capability shall be maintained to receive the largest volume of liquid contained in any one tank. Adequate transfer pipelines also shall be maintained in operational condition. Interconnected tank farms with adequate transfer capabilities and spare capacity may be considered as a single tank farm for purposes of this requirement.	II. H.	Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving high-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of waste contained in any one storage vessel, pretreatment facility, or treatment facility. Tanks or other facilities that are designated for high-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet all the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	Category 5 – waiver required. Compliance with these requirements would be quite costly (millions of dollars) and take several years to complete since Hanford does not currently have: • A maintenance program on transfer pumps • Transfer pumps that work in all tanks • Authorization to transfer some watch list tanks • Pressure tested transfer lines.		
I.3.b.(4)(e)	A schedule and procedure shall be developed for monitoring, Surveillance, and calibration checks. The frequency of these activities shall be based on the potential rate of equipment deterioration and the possibility of an environmental or human health incident, assuming that a malfunction from equipment failure or human error is not detected between checks. Schedules, procedures, and performance requirements shall be documented in the operating and maintenance documentation.	II.T.	Monitoring. High-level waste pretreatment, treatment, storage, and transportation facilities shall be monitored for chemical, physical, radiological, structural, and other changes that could indicate failure of system confinement, integrity, or safety, and which could lead to abnormal events or accidents. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, flammable or explosive mixtures of gases, level and/or waste volume, and significant waste chemistry parameters for non-immobilized high-level waste. Facility monitoring programs shall also include physical inspections to verify that control systems have not failed.	PETE HOPKINS		
		I. E.(3)	Conduct of Operations. Radioactive waste management facilities, operations, and activities shall be conducted in manner based on consideration of the associated hazards. Waste management facilities, operations, and activities shall meet the requirements of DOE 5484.0.19, Conduct of Operations Requirement for DOE Facilities	Category 1 – no impact		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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1.3.b.(4)(f)	Each high-level waste facility shall have response procedures for credible emergencies, as identified in the Safety Analysis Reports.	I. E.(5)	Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.	Category 1 – no impact • 151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
1.3.b.(5)(a)	Operator training and qualification standards shall be developed and an up-to-date record of training status shall be maintained.	I.1.E.(19) I.2. F.(11)	Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities. Training and Qualification. Ensuring a training and qualification program is implemented for designated radioactive waste management program personnel, and the training is commensurate with job duties and responsibilities. Only those personnel who have been trained and qualified shall design or operate safety class and safety significant structures, systems, and components.	Category 1 – no impact, per J. Morris (Note: DOE O 360.1 applies to Federal employees only, not to its contractors) • 5480.20A, which does apply to contractor personnel, on contract		
1.3.b.(5)(b)	Worker safety training must comply with the requirements of DOE 5480.1B and applicable EH Orders.	I.1.E.(19) I.2. F.(11)	Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities. Training and Qualification. Ensuring a training and qualification program is implemented for designated radioactive waste management program personnel, and the training is commensurate with job duties and responsibilities. Only those personnel who have been trained and qualified shall design or operate safety class and safety significant structures, systems, and components.	• 5480.20A which does apply to contractor personnel, on contract Category 1 – no impact, per J. Morris		

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I.3.b.(6)(a)	Quality Assurance. Consistent with DOE 5700.6B, high-level waste operations shall be conducted in accordance with applicable requirements of the American National Standards Institute/American Society of Mechanical Engineers Nuclear Quality Assurance-1 and other appropriate national consensus standards. (See Attachment 1, page 5, paragraph 48).	II. G. I.1.E.(12)	Quality Assurance Program. The following requirements are in addition to those in Chapter I of this Manual. (1) Product Quality. The requirements of RW-0333P, Quality Assurance Requirements and Description, shall apply to those high-level waste items and activities important to waste acceptance/product quality. (2) Audits and Assessments. The evaluation and assessment requirements of RW-0333P, Quality Assurance Requirements Document and Description, and associated implementing procedures shall be met for high-level waste acceptance and product quality activities, in addition to the assessment requirements of other DOE directives and requirements identified in Chapter I of this Manual. Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.	Category 4 – Review QA requirements to ensure those pertaining to regulatory issues are addressed • RW-0333P on contract	$12 K	
I.3.b.(7)(a)	For the purpose of economy and enhancing the safety of high-Level Waste storage, processing programs shall be developed and implemented at the generating site to reduce the quantity of waste being sent to storage, and techniques (e. g., evaporation) shall be implemented to reduce further the waste volume in storage.	None II.J.	This requirement primarily addresses efficiency of operations and is not retained in DOE M 435.1-1. The following requirements at II.J. and II.K. provide the safety performance sought by the O 5820.2A requirement. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (1) Technical and Administrative. Waste acceptance requirements for all high-level waste storage, pretreatment, or treatment facilities, operations, and activities shall specify, at a minimum, the following: (a) Allowable activities and/or concentrations of specific radionuclides; (d) Pretreatment, treatment, storage, packaging, and other operations shall be designed and implemented in a manner that will ultimately comply with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	CATEGORY 1 – no impact: majority of compliance falls upon BNFL Inc. (K. Burgard) • 5820.2A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		II.J.(2)	Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that the technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	• 5400.1 on contract • Executive Orders 12856 & 13101 impact TBD – (HOTAREK) • DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK)		
		II.K.	Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual. (1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all high-level waste streams.	Category 1 – no impact: Currently in full compliance or not applicable to current tasks.		
		I.1.E.(20)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.	Not applicable, since LMHC is not reprocessing any fuel, or generating any new waste		
I.3.b.(7)(b)	Programs should be developed and implemented to treat high-level waste in storage to prepare it for eventual conversion to suitable disposal forms, as such forms are developed. This may include separation of high-level waste into other waste categories, such as transuranic waste or low-level waste.	II.R.	Treatment. Treatment shall be designed and implemented in a manner that will ultimately comply with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	CATEGORY 1 – NO IMPACT • Notice Of Proposed Rulemaking (34 FR 8712) For Proposed Appendix D, 10 CFR Part 50, Paragraphs 6 and 7 – impact TBD (HOTAREK) • DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK)		
		II.B.	Waste Incidental to Reprocessing. Waste resulting from reprocessing spent nuclear fuel that is determined to be incidental to reprocessing is not high-level waste, and shall be managed under DOE's regulatory authority in accordance with the requirements for transuranic waste or low-level waste, as appropriate. When determining whether spent nuclear fuel reprocessing plant wastes shall be managed as another waste type or as high-level waste, either the citation or evaluation process described below shall be used:	Category 4: Review designation of waste incidental to reprocessing		$9 K
			(1)			

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
1.3.b.(7)(b) Cont.			(2) Citation. Waste incidental to reprocessing by citation includes spent nuclear fuel reprocessing plant wastes that meet the description included in the Notice of Proposed Rulemaking (34 FR 8712) for proposed Appendix D, 10 CFR Part 50, Paragraphs 6 and 7. These radioactive wastes are the result of reprocessing plant operations, such as, but not limited to: contaminated job wastes including laboratory items such as clothing, tools, and equipment. (3) Evaluation. Determinations that any waste is incidental to reprocessing by the evaluation process shall be developed under good record-keeping practices, with an adequate quality assurance process, and shall be documented to support the determinations. Such wastes may include, but are not limited to, spent nuclear fuel reprocessing plant wastes that:			
			(a) Will be managed as low-level waste and meet the following criteria: 1. Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and 2. Will be managed to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C, Performance Objectives; and 3. Are to be managed, pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, and in accordance with the provisions of Chapter IV of this Manual, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the Applicable concentration limits for Class C low-level waste as set out in 10 CFR 61.55, Waste Classification.; or will meet alternative requirements for waste classification and characterization as DOE may authorize.	• 10 CFR Part 61, Subpart C – impact TBD (HOTAREK) • 10 CFR 61.55 – impact TBD (HOTAREK)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
			(b) Will be managed as low-level waste and meet the following criteria: 1. Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and 2. Will be managed to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C, Performance Objectives; and 3. Are to be managed, pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, and in accordance with the provisions of Chapter IV of this Manual, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the Applicable concentration limits for Class C low-level waste as set out in 10 CFR 61.55, Waste Classification.; or will meet alternative requirements for waste classification and characterization as DOE may authorize. (b) Will be managed as transuranic waste and meet the following criteria: 1. Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and 2. Will be incorporated in a solid physical form and meet alternative requirements for waste classification and characteristics, as DOE may authorize; and 3. Are managed pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, in accordance with the provisions of Chapter III of this Manual, as appropriate.			
I.3.b.(7)(c)	The chemistry of liquid high-level waste shall be adjusted to control corrosion within design limits for the storage system.	None.	The adjustment of waste chemistry is encompassed by the requirement for a structural integrity program in DOE M 435.1-1, Section II.Q.(2). However, the limits for the adjustment are predicated on the length of time for which storage capacity needs to be retained. Consequently, these limits will probably be more restrictive than the original design limits.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.b.(7)(d)	Treatment reagents shall not be placed in a tank system without proven effective mitigative action if they could cause the tank, its ancillary equipment, or the containment system to rupture, Leak, or otherwise fail.	II. L.	Waste Characterization. High-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any solidification media; (c) Radionuclides or source information sufficient to describe the approximate radionuclide content of the waste; and (d) Any other information which may be needed to demonstrate compliance with the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste. (3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.	Category 1 – no additional impact (V. Boyles) • DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK)		
		II. N.	Waste Transfer. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. High-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	Category 1, - no impact		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
1.3.b.(7)(e)	Waste generation and waste management systems that significantly change the chemical and physical forms of the waste shall be technically assessed to assure compatibility and retrievability.	II. L.	Waste Characterization. High-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any solidification media; (c) Radionuclides or source information sufficient to describe the approximate radionuclide content of the waste; and (d) Any other information which may be needed to demonstrate compliance with the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste. (3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.	Category 1 – no impact (V. Boyles) • DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK)		
		II. N.	Waste Transfer. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. High-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer. (2) Data. Waste characterization data and generation, storage, pretreatment, treatment, and transportation information for high-level waste shall be transferred with or be traceable to the waste. (3) Records and Transfer Reporting. The records and transfer requirements for canistered high-level waste forms shall comply with DOE/EM-0093, Waste Acceptance Product Specification for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	• DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.c.(1)	Waste Characterization. The contents of singly contained tank systems shall be characterized consistent with radiation protection requirements and the needs associated with safe storage to determine its hazardous components consistent with 40 CFR 261, 40 CFR 264, and State requirements. Characterization may reflect knowledge of waste generating processes, laboratory testing results, and/or the results of periodic sampling and analysis.	II. L.	Waste Characterization. High-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any solidification media; (c) Radionuclides or source information sufficient to describe the approximate radionuclide content of the waste; and (d) Any other information which may be needed to demonstrate compliance with the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste. (3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.	Category 1 – n o impact (V. Boyles) • DOE/EM-0093 and DOE/RW-0351P are not on contract – impact TBD (HOTAREK)		
		I.1.E.(10)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended. NOTE: Chemical hazards and safety are not within the scope of DOE M 435.1-1. Therefore, the requirement to characterize high-level waste to identify RCRA hazardous components was not retained, however, such requirements are invoked by the RCRA regulations.			

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
1.3.c.(2)(a)	Singly contained tank systems shall not be used to store fresh high-level waste from fuel reprocessing operations except under emergency conditions as determined by the Operations Office Manager.	None.	This requirement is not retained, however, the requirements in DOE M 435.1-1, Section II Q.(2)(a), Structural Integrity Program, do allow the continued use of existing single confinement tank systems provided a determination is made that the tank system is fit.			
		II.Q.(2)	Structural Integrity Program.			
			(a) Leak-Tight Tanks In-Service. A structural integrity program shall be developed for each high-level waste storage tank site to verify the structural integrity and service life of each tank to meet operational requirements for storage capacity. The program shall be capable of:			
			1. Verifying the current leak-tightness and structural strength of each tank in service;	Category 1 – no impact (T. Oten)		
			2. Identifying corrosion, fatigue, and other critical degradation modes;	Category 1 – no impact (T. Oten)		
			3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures;			
			4. Providing credible projections as to when structural integrity of each tank can no longer be assured; and			
			5. Identifying the additional controls necessary to maintain an acceptable operating envelope.	Category 1 – no impact (T. Oten)		
			In addition, the requirements in Section II.L (3) require that the waste be characterized in sufficient detail to identify hazardous characteristics that may degrade the ability of structures, systems and components to perform their radioactive waste management function.			
		II.L.(3)	Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.	Category 1 – no impact (V. Boyles)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.c.(2)(b)	Storage and transfer operations shall be conducted within the limits defined in the Safety Analysis Reports according to DOE 5481.1B.	I.I.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	• DOE-STD-1027-92 not on contract but being adhered to • DOE-EM-STD-5502-94 not on contract but being adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5480.23 on contract with change 1 – impact TBD (HOTAREK)		
		II. F.	Radioactive Waste Management Basis. High-level waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis: (1) Generators. The waste certification program. (2) Pretreatment and Treatment Facilities. The waste acceptance requirements and waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program.	Category 4: Develop a plan to address all forms of radioactive waste management		$75 K
		II.L.(3)	Waste Characterization. (3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.			
I.3.c.(2)(c)	Engineered systems shall be incorporated to provide waste volume inventory data, consistent with the nature of the specific waste stored in singly contained tanks. Examples are surface level sensing devices and interstitial liquid level sensing devices.	II. P.(2)(i)	Instrumentation and Control Systems. Engineering controls shall be incorporated to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or containment systems. Examples are level-sensing devices, liquid level alarms, anti-siphoning devices, and maintenance of sufficient freeboard.	Category 1 – no impact (T. Oten)		
		II. P.(2)(j)	Volume Monitoring Systems. Monitoring and leak detection capabilities shall be incorporated in the design and engineering of systems to provide rapid identification of failed containment and/or other abnormal conditions.	Category 1 – no impact (T. Oten)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
1.3.c.(2)(d)	Singly contained pipelines: (see paragraph 3b(2) (b)).	None	This is a very prescriptive requirement for which there is no documented technical basis for the value (0.05 Ci/gal.) contained in the DOE 5820.2A requirement. DOE M 435.1-1 II.Q.(2)O addresses the concern of structural integrity of single-walled pipelines, and all pipelines, by requiring that their structural integrity be verified to assure leak tightness and structural strength, no matter the activity level.	• 5820.2A on contract		
1.3.c.(2)(e)	Where active ventilation is required systems-shall be provided to maintain radionuclide releases at the point of discharge within the guidelines specified in applicable EH Orders for offsite concentrations and DOE 5480.1B for onsite dose commitment considerations.	II. P.(2)(d)	Ventilation. 1. Design of high-level waste pretreatment, treatment, and storage facilities shall include ventilation through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the applicable requirements.	Category 1 – no impact (T. Oten) Potential emission sources and monitoring and operational controls are documented in the Facility Effluent Monitoring Plans and in HNF-1974, "Hanford site Radionuclide NESHAPS Stack Source Assessment:		
1.3.c.(2)(f)	Nuclear criticality safety (see paragraph 3b(2) (l)).	I. 1.E.(4)	Criticality Safety. Radioactive waste management facilities, operations, and activities shall be covered by a criticality safety program in accordance with DOE O 420.1, Facility Safety.	• O 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK)		
1.3.c.2.g	Each facility shall use remote maintenance features and other appropriate techniques to maintain personnel radiation exposure as low as reasonably achievable.	II. P.(2)(f)	Maintenance Exposure Reduction. Remote maintenance features and other appropriate techniques to maintain as low as reasonably achievable (ALARA) personnel exposures shall be incorporated into each high-level waste facility.	Category 1 – no impact (T. Oten) These requirements are consistent with present practice. The requirement for a Maintenance Management Program is contained in DOE 4330.4B which is a requirement in our current contract.		
1.3.c.2.h	Electrical power loss (see paragraph 3b(2) (k)).	None	This prescriptive requirement is unnecessary. The DOE M 435.1-1 performance-based requirements at paragraph II P (2) (a) that addresses safety and safety class systems, structures, and components would encompass this as well as other prescriptive requirements regarding system safety.			
		II.P.(2)(b)	Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components: 1. Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system. 2. Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction.	Category 1 – no impact (T. Oten): Secondary confinement requirements are consistent with existing requirements. Category 1 – no impact (T. Oten): Tank and pipe systems are welded except where the systems are temporary in nature (salt well pumping) or require remote operation (jumpers).		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		II.N.	Waste Transfer. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. High-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer. (2) Data. Waste characterization data and generation, storage, pretreatment, treatment, and transportation information for high-level waste shall be transferred with or be traceable to the waste (3) Records and Transfer Reporting. The records and transfer requirements for canistered high-level waste forms shall comply with DOE/EM-0093, Waste Acceptance Product Specification for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	Category 1 – no impact • DOE/EM-0093 and DOE/RW-0351P are not on contract		
I.3.c.3.a	Monitoring and surveillance capability shall exist to provide liquid volume, waste inventory data, and identification of failed containment.	II. P.2.(i) II. P. 2.(j)	Instrumentation and Control Systems. Engineering controls shall be incorporated to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or containment systems. Examples are level-sensing devices, liquid level alarms, anti-siphoning devices, and maintenance of sufficient freeboard. Monitoring Systems. Monitoring and leak detection capabilities shall be incorporated in the design and engineering of systems to provide rapid identification of failed containment and/or other abnormal conditions	Category 1 – no impact (T. Oten): Engineering controls that provide information to Operations have already been evaluated and are identified in the FSAR Category 1 – no impact (T. Oten): (same as above)		
I.3.c.3.b	A method for periodically assessing waste storage tank integrity (e. g., coupons, photographic inspections, leak detectors, liquid level devices) shall be established and documented.	II.Q.(2)	Structural Integrity Program. (a) Leak-Tight Tanks In-Service. A structural integrity program shall be developed for each high-level waste storage tank site to verify the structural integrity and service life of each tank to meet operational requirements for storage capacity. The program shall be capable of: 1. Verifying the current leak-tightness and structural strength of each tank in service; 2. Identifying corrosion, fatigue, and other critical degradation modes; 3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures; 4. Providing credible projections as to when structural integrity of each tank can no longer be assured; and 5. Identifying the additional controls necessary to maintain an acceptable operating envelope.	Category 1 – no impact (T. Oten) Category 1 – no impact (T. Oten) Category 1 – no impact (T. Oten)		

CH2M HILL Hanford Group, Inc. Gap Analysis and Crosswalk of DOE 5820.2A vs. DOE O 435.1/M 435.1-1

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.c.3.c	Emergency power (see paragraph 3b(3)(d)).	None	This prescriptive requirement is unnecessary. The DOE M 435.1-1 performance-based requirement at paragraph II.P.(2)(a), which addresses safety and safety class systems, structures, and components, encompass this O 5820.2A requirement. Additionally, the following DOE Orders cited in DOE M 435.1-1 provide defense-in-depth:	• 5820.2A on contract • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • DOE-STD-1027-92 not on contract but being adhered to • DOE-EM-STD-5502-94 not on contract but being adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5480.23 on contract with change 1 – impact TBD (HOTAREK) • O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
		II.P.(2)(a)	Safety (Safety Class and Safety-Significant) Structures, Systems, and Components. Safety structures, systems, and components for high-level waste storage, pretreatment, and treatment facilities shall be designated and designed consistent with the provisions of DOE O 420.1, Facility Safety; DOE 5480.22, Technical Safety Requirements; and DOE 5480.23, Nuclear Safety Analysis Reports.	Category I – no impact (T. Oten)		
		I.I.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.			
		I.I.E.(18)	Site Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.3.c.3.d	Monitoring wells (see paragraph 3b(3) (f)).	None	This prescriptive requirement is unnecessary. Permitting requirements are not within the established scope of this Order. DOE M 435.1-1 provides a list of other appropriate regulations and directives in Chapter I, paragraph I.E., for example I.I.E.(7), Environmental Monitoring. Additionally, Section II.C.(1), Mixed High-Level Waste, invokes RCRA for high-level waste, unless demonstrated otherwise.			
I.3.c.4.a	A contingency action plan shall be maintained to respond to spills or leaks and other credible emergencies as identified in the Safety Analysis Reports.	II. H.	Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving high-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of waste contained in any one storage vessel, pretreatment facility, or treatment facility. Tanks or other facilities that are designated for high-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet all the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	Category 4: Verify similar requirements in RCRA and agreements in TPA 151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK)	$3 K	
		I. 1.E.(5)	Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.			

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I.3.c.4.b	Leak mitigation (see paragraph 3.b(4)(b)).	None	DOE O 151.1, Comprehensive Emergency Management System, cites the discovery of releases of radioactive waste as an "Operational Emergency Events and Condition", Chapter V, paragraph 2.(a)(1), that is covered by that Order. DOE M 435.1-1, Section I.1.E.(5) requires that radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.. Released material is not considered radioactive waste to be managed as defined in DOE M 435.1-1, Chapter I, Attachment 1, Glossary, and as such, are not within the scope of DOE O 435.1. DOE O 435.1 and DOE M 435.1-1 set forth the requirements that DOE and its contractors must follow in managing radioactive waste to protect workers, the public, and the environment from radiological exposures.	• 5820.2A on contract • 151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
	Leak mitigation (see paragraph 3.b(4) (b)). Cont.		In the context of "managing" radioactive waste, these directives apply to waste in storage, treatment, and disposal (except the disposal of high-level waste in the NRC-regulated geologic repository and disposal of transuranic waste at the WIPP, both of which are covered by other regulations). These directives all have as their objective promoting practices that preclude the uncontrolled release of radioactive material, such as from leaking tanks. However, remediation of past or future uncontrolled releases are not within the scope of DOE O 435.1 and DOE M 435.1-1 and are generally conducted under the CERCLA process. Thus the 5820.2A requirement at I.3.b.(4)(b) regarding the remediation of released material has not be retained in DOE M 435.1-1.			
		I.2.F.(20)	Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		II.I.	Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.			
I.3.c.4.c	For emergency situations involving pumpable liquid in singly contained tanks, appropriate equipment (e.g., pumps) shall be maintained to provide removal of liquid.	II. H.	Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving high-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of waste contained in any one storage vessel, pretreatment facility, or treatment facility. Tanks or other facilities that are designated for high-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet all the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
I.3.c.5	Training. (see paragraphs 3b(5) (a) and (b)).	I. 1.E.(19) I. 2.F.(11)	Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities. Training and Qualification. Ensuring a training and qualification program is implemented for designated radioactive waste management program personnel, and the training is commensurate with job duties and responsibilities. Only those personnel who have been trained and qualified shall design or operate safety class and safety significant structures, systems, and components.	Category 1, per J. Morris Category 1, per J. Morris		

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I.3.c.6	Quality Assurance. (see paragraphs 3b(6) (a)).	II. G.	Quality Assurance Program. The following requirements are in addition to those in Chapter I of this Manual. (1) Product Quality. The requirements of RW-0333P, Quality Assurance Requirements and Description, shall apply to those high-level waste items and activities important to waste acceptance/product quality. (2) Audits and Assessments. The evaluation and assessment requirements of RW-0333P, Quality Assurance Requirements Document and Description, and associated implementing procedures shall be met for high-level waste acceptance and product quality activities, in addition to the assessment requirements of other DOE directives and requirements identified in Chapter I of this Manual.	• RW-0333P in contract		
		I. 1.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.			
I.3.d	Disposal. New and readily retrievable waste shall be processed and the high-level waste fraction disposed of in a geologic repository according to the requirements of the Nuclear Waste Policy Act of 1982 (Public Law 97-425) as amended. Options for permanent disposal of other waste, such as single shell tank waste, shall be evaluated and include such methods as in-place stabilization as well as retrieval and processing, as required for new and readily retrievable waste. Analytic predictions of disposal system performance shall be prepared and incorporated in the National Environmental Policy Act process.	II. S.	Disposal. Disposal of high-level waste must be in accordance with the provisions of the Nuclear Waste Policy Act of 1982, as amended, and any other applicable statutes.	N/A: Hanford is not responsible for disposal of its immobilized HLW		
I.3.d.1	New and Readily Retrievable. New and readily retrievable existing high-level waste shall be processed to a final immobilized form in facilities such as the Defense Waste Processing Facility and the Hanford Waste Vitrification Plant preparatory to permanent disposal in a deep geologic repository.	None	The Nuclear Waste Policy Act of 1982, as amended, its implementing regulations, and Departmental documents, establish the requirements for the waste form to be disposed in the repository. The requirement at II.R.,Treatment, identifies the DOE implementing documents.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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I.3.d.1.a	Waste acceptance specifications and criteria based upon the requirements outlined in 10 CFR 60, 113, 10 CFR 60. 131(b)(7), 10 CFR-60.135, 10 CFR 71.87 and 40 CFR 191 shall be developed for high-level waste forms prior to startup of facilities that generate the disposal waste form. Specifications and criteria shall be approved by RW-20 and DP-12 for Defense Programs high-level waste forms and by RW-20 and NE-20 for West Valley Demonstration Project product. As examples, specifications and criteria for the Defense Waste Processing Facility vitrified high-level waste form are documented in DOE/RW-0125; those for the West Valley Demonstration Project high-level waste form are documented in DOE/RW-0136.	II. R.	Treatment. Treatment shall be designed and implemented in a manner that will ultimately comply with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	N/A: PRIVATIZATION VENDOR IS EXEMPT FROM DOE ORDERS Category 1, per K. Burgard		
		II.J.(1)(d)	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (1) Technical and Administrative. Waste acceptance requirements for all high-level waste storage, pretreatment, or treatment facilities, operations, and activities shall specify, at a minimum, the following: (d) Pretreatment, treatment, storage, packaging, and other operations shall be designed and implemented in a manner that will ultimately comply with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.			
I.3.d.1.b	Interim storage for solidified high-level waste awaiting transport to the designated geologic repository shall comply with applicable requirements in paragraph 3b.	II. Q (3)	Canistered Waste Form Storage. Canisters of immobilized high-level waste awaiting shipment to a repository shall be: (a) Stored in a suitable facility; (b) Segregated and clearly identified to avoid commingling with low-level, mixed low-level, or transuranic wastes; and (c) Monitored to ensure that storage conditions are consistent with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified immobilized high-level waste. Facilities and operating procedures for storage of vitrified high-level waste shall maintain the integrity of the canistered waste form.	CATEGORY I – NO IMPACT PER K. BURGARD • DOE/EM-0093 and DOE/RW-0351P are not on contract		
I.3.d.2	Other Waste. High-level waste that is not readily retrievable shall be monitored periodically in situ. Field offices shall reevaluate the safety of such waste to determine the need for corrective measures as necessary. Options for permanent disposal of singly contained tank waste shall be evaluated and include such methods as in-place stabilization as well as retrieval and processing, as required for new and readily retrievable waste in paragraph 3d(1).	None	This requirement has not be retained, current DOE policy is that all high-level waste shall be retrieved and treated to meet the requirements for disposal in a geologic repository. Residues that are not technically, or economically, practical to remove are addressed by the requirements in Section II.B., Waste Incidental to Reprocessing, and Section II.U., Closure.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		II.A.	Definition of High-Level Waste. High-level waste is the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation.			
		II.C.(2)	TSCA-Regulated Waste. High-level waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual.	Category 1 – no impact: This issue is already being addressed by RPP		
		II.D.	Complex-Wide High-Level Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	N/A: This document is being generated by DOE-HQ		
		II.E.	Site-Wide Radioactive Waste Management Program. In addition to the items in Chapter I of this Manual, documentation of the Site-Wide Radioactive Waste Management Program shall include a description of the High-Level Waste Systems Engineering Management Program to support decision-making related to nuclear safety, including high-level waste requirements analysis, functional analysis and allocation, identification of alternatives, and alternative selection and system control.	Category 1 – no impact: The RPP has implemented System Engineering in a graded approach throughout the Project as documented in the TWRS Systems Engineering Management Plan (HNF-SD-WM-SEMP-002, Rev.1)		
		II.K.	Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual. (2) Waste With No Identified Path to Disposal. High-level waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) (d) Activities and plans for achieving final disposal of the waste (compliance with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms).	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks. • DOE/EM-0093 not on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		II.M.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving high-level waste for storage, pretreatment, treatment, and disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. High-level waste shall be certified as meeting the waste acceptance requirements before it is transferred to the facility receiving the waste. (3) Maintaining Certification. High-level waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, pretreatment, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	This expected to be a 2-year effort and will include wastes generated/received onsite, waste from vitrification, and LLW transported offsite for volume reduction. Costs of this effort will be estimated in Implementation Plan.		TBD
		II.O.	Packaging and Transportation. The following requirement is in addition to those in Chapter I of this Manual. (1) Canistered Waste Form. Immobilized high-level waste shall meet the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	CATEGORY 1 – NO IMPACT • DOE/EM-0093 and DOE/RW-0351P are not on contract		
		II.P.(1)	Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual. (1) Site Evaluation. Proposed locations for high-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new high-level waste facility or expansion of an existing high-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities. (b) Proposed sites with environmental characteristics, geotechnical characteristics, or human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	Category 1 – no impact , (T. Oten)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		II.U.	Closure. The following requirements for closure of deactivated high-level waste facilities and sites are in addition to those in Chapter I of this Manual.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
			(1) Decommissioning. Deactivated high-level waste facilities/sites shall meet the decommissioning requirements of DOE O 430.1A, Life-Cycle Asset Management and the requirements of DOE 5400.5, Radiation Protection of the Public and the Environment, for release; or	II.U.(1) N/A: the Tank Farms will be closed in accordance with the O 435.1 closure requirements as identified in II.U.(3) below. (per P. McCarthy)		
			(2) CERCLA Process. Deactivated high-level waste facilities/sites shall be closed in accordance with the CERCLA process as described in Section I.2.F.(5); or	II.U.(2) N/A: the Tank Farms will be closed in accordance with a RCRA process not a CERCLA process and will comply with the O435.1 Closure requirements as identified below. (Per P. McCarthy)		
			(3) Closure. Deactivated high-level waste facilities/sites shall be closed in accordance with an approved closure plan as specified below. Residual radioactive waste present in facilities to be closed shall satisfy the waste incidental to reprocessing requirements of this Chapter.	II.U.(3) Category 3: A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10. To date, retrieval performance has been based on the criteria in the Tri Party Agreement; sampling of the residual waste is part of the retrieval strategy (TBR 160.005); the Level 1 Retrieval Specification does not currently incorporate the O435.1 criteria related to incidental waste but will be incorporated in the semi-annual update (next update is scheduled for FY01, TBR 290.007). There is no major cost or schedule impact; requirement will be incorporated into retrieval specific action FY 2001. (Per P. McCarthy)		
			(a) Facility/Site Closure Plans. A closure plan shall be developed for each deactivated high-level waste facility/site being closed that defines the approach and plans by which closure of each facility within the site is to be accomplished. This plan shall be completed and approved prior to the initiation of physical closure activities, and updated periodically to reflect current analysis and status of individual facility closure actions. The plan shall include, at a minimum, the following elements:	II.U.(3)(a) Category 1: A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10.		

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M.II.U(3)(a) Cont.			1. Identification of the closure standards/performance objectives to be applied from Chapter III or IV, as appropriate;	II.U.(3)(a)1. Category 1: Identification of Closure Design Requirements, including closure standards/ performance objectives, is within the baseline of the SST Retrieval Program under TBR 510.113, currently scheduled for FY05 with plans to maintain the design requirements through the life of the project. O435.1 requirements will be incorporated into the design requirements at that time.		
			2. A strategy for allocating waste disposal facility performance objectives from the closure standards identified in the closure plan among the facilities/units to be closed at the site;	Allocation of performance objectives among the facilities to be closed is within the baseline of the ST Retrieval Program under the performance assessment work in TBR 510.113, currently scheduled for FY09.		
			3. An assessment of the projected performance of each unit to be closed relative to the performance objectives allocated to each unit under the closure plan;	Performance among the facilities to be closed is within the baseline of the SST Retrieval Program under the performance assessment work in TBR 510.1113, currently scheduled for FY09.		
			4. An assessment of the projected composite performance of all units to be closed at the site relative to the performance objectives and closure standards identified in the closure plan; and	N/A: the composite assessment of the Hanford Site is not the responsibility of RPP.		
			5. Any other relevant closure controls including a monitoring plan, institutional controls, and land use limitations to be maintained in the closure activity.	The Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10, it will include these other relevant controls.		
		II.V.(1)	Specific Operations. Specific requirements are provided for the operation of lifting devices and facilities for receipt and retrieval of high-level waste. (1) Operation of Lifting Devices. Hoisting and rigging activities shall be conducted in accordance with the guidance provided in the DOE Standard "Hoisting and Rigging" (DOE-STD-1090-96).	• DOE-STD-1090-96 not on contract, – impact TBD (HOTAREK)		
CHAPTER III – SECTION BREAK						

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.1	PURPOSE. To establish policies and guidelines for managing DOE transuranic waste starting with its generation, continuing through closure of the Waste Isolation Pilot Plant, and finally the management of buried transuranic waste as defined in Attachment 1, page 3, paragraph 22. Transuranic wastes that are also mixed wastes are subject to the requirements of the Atomic Energy Act and the Resource Conservation and Recovery Act. Additionally, buried transuranic wastes are subject to the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, and the Superfund Amendments and Reauthorization Act.	1. III.B.(1) None	PURPOSE. This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment. Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual. Evaluations and management decisions regarding buried transuranic waste are environmental remediation issues addressed through the Comprehensive Environmental Response, Compensation, and Liability Act and therefore not a waste management activity addressed in DOE O 435.1 or DOE M 435.1-1.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.2	POLICY. Transuranic waste shall be managed to protect the public and worker health and safety, as well as the environment, and performed in compliance with applicable radiation protection standards and environmental regulations. Practical and cost effective methods shall be used to reduce the volume and toxicity of transuranic waste.	Order 4.b.	Radioactive waste shall be managed to: (1) Protect the public from exposure to radiation from radioactive materials. Requirements for public radiation protection are in DOE 5400.5, Radiation Protection of the Public and the Environment. (2) Protect the environment. Requirements for environmental protection are in DOE 5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment. (3) Protect workers. Requirements for radiation protection of workers are in 10 CFR Part 835, Occupational Radiation Protection; requirements for industrial safety are in DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees. (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5400.1 on contract • 10 CFR Part 835 impact TBD (HOTAREK) • 440.1A and CRD 440.1 on contract • Executive Orders 12856 & 13101 impact TBD - (HOTAREK)		
		I.1.E.(20)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.			
		I.2.F.(3)	Waste Minimization and Pollution Prevention. Ensuring implementation of waste minimization and pollution prevention programs.			
		III.L.(2)	Transportation. To the extent practical, the volume of waste and number of transuranic waste shipments shall be minimized.			

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II.2.a.	Transuranic waste shall be certified in compliance with the Waste Isolation Pilot Plant-Waste Acceptance Criteria, placed in interim storage (if required), and sent to the Waste Isolation Pilot Plant.		There is not a corresponding 435.1 requirement that is as prescriptive as the 5820.2A requirement. Instead, 435.1 includes requirements that address certification that waste meets waste acceptance criteria and disposal in a facility that meets regulatory requirements.	• 5820.2A on contract		
		III.I.	Waste Characterization. Transuranic waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	III.I – Category 1 – no impact, currently in full compliance (V. Boyles)		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.	III.J. – Category 4 – Environmental review against guidance required to determine if HLW/TRU/WIR generated. Beyond July 2000 it is expected that a 2-year effort to develop a waste certification program for LLW and MLLW received from onsite facilities, verified wastes, etc., will be required. (M. Brown)	$9 K	TBD as part of implementation plan
		III.P.	Disposal. Transuranic waste shall be disposed in accordance with the requirements of 40 CFR Part 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.	III.P - Category 1 – no impact.		
II.2.b.	Transuranic waste that the Department of Energy has determined, with the concurrence of the EPA Administrator, does not need the degree of isolation provided by a geologic repository or, transuranic waste that cannot be certified or otherwise approved for acceptance at the Waste Isolation Pilot Plant, shall be disposed of by alternative methods. Alternative disposal methods shall be approved by DOE Headquarters (DP-12 and EH-1) and shall comply with the National Environmental Policy Act requirements and EPA/State regulations.	III.A.	Definition of Transuranic Waste. Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for: (1) High-level radioactive waste; (2) Waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or (3) Waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.2.b. Cont.		IV.A.	Definition of Low-Level Waste. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material.			
		I.2.E.	Deputy Assistant Secretaries for Waste Management and Environmental Restoration. The Deputy Assistant Secretary for Waste Management and the Deputy Assistant Secretary for Environmental Restoration are responsible for: (1) Disposal. Reviewing and approving, along with EH-1, transuranic waste disposal facility performance assessments and other disposal documents as required in waste specific chapters for which DOE is responsible for making compliance determinations. Reviewing and approving performance assessments and composite analyses, or appropriate CERCLA documentation, for low-level waste disposal facilities, and issuing disposal authorization statements.			
		I.1.D.	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.			
		III.P.	Disposal. Transuranic waste shall be disposed in accordance with the requirements of 40 CFR Part 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.	Category I – no impact		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.a.(1)	Any material that is known to be, or suspected of being contaminated with transuranium radionuclides shall be evaluated as soon as possible in the generating process, and determined to be either recoverable material, transuranic waste, low-level waste, mixed waste, or nonradioactive trash in order to avoid commingling the various material streams.	None	There is not a corresponding 435.1 requirement that is as prescriptive as the 5820.2A requirement. Instead, 435.1 includes requirements for planning the generation of any waste and for managing it within one of the Department's waste type programs.	• 5820.2A on contract		
		I.2.F.	Field Element Managers. Field Element Managers are responsible for: (7) Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.			
		III.H.	Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual. (1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all transuranic waste streams.	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
		I.1.C.	Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, Radioactive Waste Management, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.			
II.3.a.(2)	The lower concentration limit for transuranic waste (>100 nCi/g of waste) shall apply to the contents of any single waste package at the time of assay. The mass of the waste container including shielding shall not be used in calculating the specific activity of the waste.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement. This level of detail is included in the guidance that supports the following 435.1 Definition of Transuranic Waste:	• 5820.2A on contract		
		III.A.	Definition of Transuranic Waste. Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.a.(3)	Radioactive wastes with quantities of transuranic radionuclides in concentrations of 100 nCi/g of waste or less shall be considered to be low-level waste, and shall be managed according to the requirements of Chapter III of this Order.	III.A. IV.A. I.1.C.	Definition of Transuranic Waste. Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for Definition of Low-Level Waste. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material. Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, Radioactive Waste Management, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.			
I.1.3.a.(4)	Mixed transuranic waste:	None.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement. Instead, 435.1 has more requirements for all transuranic waste (not just mixed) to meet waste acceptance criteria for any waste management facility to which it is transferred.	• 5820.2A on contract		
	(a) Mixed transuranic waste meeting the requirements of the Waste Isolation Pilot Plant-Waste Acceptance Criteria shall be sent to the Waste Isolation Pilot Plant. (b) The Data Package prepared by the generators for the Waste Isolation Pilot Plant shall include information on the kinds and quantities of hazardous components contained in a waste package in accordance with applicable Resource Conservation and Recovery Act regulations.	III.J. III.B.(1)	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (1) Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.	Category 4 – as previously noted, (M. Brown)		

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II.3.a.(4) Cont.		III.I.	Waste Characterization. Transuranic waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides;	Category I – no impact; currently in full compliance.		
	(c) The determination whether the transuranic waste exhibits any hazardous characteristics or contains listed hazardous components may be based on knowledge of the waste generating process when the performance of a chemical analysis would significantly increase the radiation hazard to personnel.		Waste Characterization. (cont) (e) Characterization date; (f) Generating source; (g) Packaging date; and (h) Any other information which may be needed to prepare and maintain the disposal facility performance assessment or demonstrate compliance with applicable performance objectives.			
		III.I.	Waste Characterization. Transuranic waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	Category I – no impact; Currently in full compliance		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II. 3.b.(1)	Technical and administrative controls shall be directed to reducing the gross volume of waste generated and/or the amount of radioactivity requiring disposal. Transuranic waste reduction efforts shall be based on the implementation of techniques such as process modification, process optimization, materials substitution, decontamination, assay of suspect waste, and new technology development. Volume reduction techniques, such as incineration, compaction; extraction, and shredding, shall be implemented wherever cost effective and practical. Treatment facilities shall be permitted by the appropriate regulatory authority.	I.1.E.(20) I.2.F. III.L.(2)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program. Field Element Managers. Field Element Managers are responsible for: (3) Waste Minimization and Pollution Prevention. Ensuring implementation of waste minimization and pollution prevention programs. Transportation. To the extent practical, the volume of waste and number of transuranic waste shipments shall be minimized.	Category 1 – no impact: Currently in full compliance. • 5400.1 on contract		
		Order 4.b.	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
		III.B.(1)	(1) Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of			
			1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.			

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II.3.b.(2)	Transuranic waste shall be assayed or otherwise evaluated to determine the kinds and quantities of transuranic radionuclides present prior to storage. Additionally, hazardous waste components shall be estimated or analyzed, whichever is appropriate.	III.I.	Waste Characterization. Transuranic waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides; (e) Characterization date; (f) Generating source; (g) Packaging date; and (h) Any other information which may be needed to prepare and maintain the disposal facility performance assessment or demonstrate compliance with applicable performance objectives.	Category 1 – no impact; currently in full compliance (V. Boyles)		
II.3.b.(3)	Mixed transuranic waste shall be treated, where feasible and practical, to destroy the hazardous waste component.		There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement. Passage of the Waste Isolation Pilot Plant Land Withdrawal Act, as amended, which authorizes disposal of untreated transuranic mixed waste at WIPP, makes this requirement obsolete. Instead, 435.1 requires treatment as necessary to comply with applicable requirements:	• 5820.2A on contract		
		III.O.	Treatment. Transuranic waste shall be treated as necessary to meet the waste acceptance requirements of the facility receiving the waste for storage or disposal.	N/A since RPP is not responsible for treating TRA wastes		
II.3.b.(4)	Transuranic waste that is classified for security reasons shall be treated to remove or destroy the classified characteristic(s) prior to certification. Declassification should be performed by the generator.	I.2.F.	Field Element Managers. Field Element Managers are responsible for: (17) Material and Waste Declassification for Waste Management. Ensuring, to the extent practical, radioactive material and waste generated under a program that is classified for national security reasons is declassified or rendered suitable for unclassified radioactive waste management.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(1)	Transuranic waste shall be certified, pursuant to the Waste Isolation Pilot Plant-Waste Acceptance Criteria, placed in interim storage, and sent to the Waste Isolation Pilot Plant when it becomes operational.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement. Instead, 435.1 requires that decisions to generate a waste include an evaluation waste management all of the way through disposal, that waste be certified as meeting the applicable waste acceptance requirements, and that transuranic waste be disposed in a facility that meets 40 CFR Part 191. With its approval of the WIPP Compliance Certification Application, EPA has agreed that WIPP meets 40 CFR Part 191.	• 5820.2A on contract		
		III.H.	Waste Generation Planning. The following requirements are in addition to those in Chapter 1 of this Manual (1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all transuranic waste streams.	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste. (3) Maintaining Certification. Transuranic waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	Category 4, as previously noted. (M. Brown)		
		III.P.	Disposal. Transuranic waste shall be disposed in accordance with the requirements of 40 CFR Part 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.	N/R since RPP is not responsible for disposal of TRU wastes		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(2)	Uncertified transuranic waste shall not be sent to the Waste Isolation Pilot Plant except by special permission granted in response to a formal, documented request to the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee and the Waste Isolation Pilot Plant Waste Operations.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement. Instead, 435.1 includes generally applicable requirements for ensuring certification and addressing waste that does not meet waste acceptance requirements.	• 5820.2A on contract		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste.	Category 4; as previously noted, (M. Brown)		
		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	Category 1 – no impact (V. Boyles)		
		III.G.	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (1) Technical and Administrative Waste acceptance requirements for all transuranic waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following: (e) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved.	Category 1 – no impact, (V. Boyles)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(3)	All transuranic waste certification sites shall prepare a certification plan which describes how the waste meets each waste acceptance criterion described in the WIPP-DOE-069.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding complying with a specific document. Instead, 435.1 includes generally applicable requirements for waste certification.	• 5820.2A on contract		
		I.2.F.	Field Element Managers. Field Element Managers are responsible for:			
			(7) Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	Category 4; Developing and implementing this program for TRU wastes is expected to be part of a two-year effort starting after July 2000, and will include LLW, mixed LLW, vitrified wastes, etc.		TBD in Implementation Plan
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.	Category 4; as previously noted. (M. Brown)		
II.3.c.(4)	Each certification plan shall define controls and other measures to ensure that each element of the certification plan is performed adequately as described. Requirements for these quality assurance activities are described in the WIPP-DOE-120 (see Attachment 1, page 2, paragraph 19).	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding complying with a specific document. Instead, 435.1 includes generally applicable requirements for waste certification as well as quality assurance requirements and requirements for facilities to ensure waste meets their requirements. If waste acceptance requirements invoke a particular quality assurance document, it would have to be implemented as part of the certification program.	• 5820.2A on contract		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.	~~Category 4; as previously noted. (M. Brown)~~		
		I.1.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10			
			CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.			

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(5)	Certification plans, including associated quality assurance plans, shall be submitted for review, comment, and approval by the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding certification plan approval. Instead, 435.1 includes generally applicable requirements to develop and implement certification programs and for the facility receiving the waste to confirm that waste acceptance requirements are being met. Guidance explains that review and acceptance or approval of a certification program is one means of confirming that the requirements have been met.	• 5820.2A on contract		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste.	Category 4; as previously noted, (M. Brown)		
		III.G.	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that	Category 1 – no impact, (V. Boyles)		
		III.K.	technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual.			
			(1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.			
II.3.c.(6)	The Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee shall submit certification and associated quality assurance plans to the state of New Mexico's Environmental Evaluation Group for review and comment prior to granting formal approval of such plans.	None.	This requirement was eliminated from the Manual as being inappropriate and unnecessary. The Department's interface with the Environmental Evaluation Group is defined by the WIPP Land Withdrawal Act and managed administratively.			
II.3.c.(7)	The Environmental Evaluation Groups' s comments on certification and associated quality assurance plans shall be resolved between the affected site and the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee prior to granting formal approval of the plans.	None.	This requirement was eliminated from the Manual as being inappropriate and unnecessary. The Department's interface with the Environmental Evaluation Group is defined by the WIPP Land Withdrawal Act and managed administratively.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(8)	Approved certification and associated quality assurance plans shall be implemented by the generating sites using specific, written operational procedures.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding implementing certification programs. Instead, 435.1 includes generally applicable requirements to develop and implement certification programs.	• 5820.2A on contract		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste. (3) Maintaining Certification. Transuranic waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	Category 4; as previously noted, (M. Brown)		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(9)	Certification activities conducted under approved plans and procedures shall be audited periodically, in accordance with a written audit program plan on a continuing basis by the Waste Isolation Pilot Plant Waste Acceptance Criteria Certification Committee. An Environmental Evaluation Group representative may accompany the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee audit team as an observer during site audits. The Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee may grant certifying authority to the site following successful completion of an audit.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding WIPP approval of site certification programs. Instead, 435.1 includes generally applicable requirements to develop and implement certification programs and for the facility receiving waste to confirm that waste acceptance requirements are being met. Guidance explains that review and acceptance or approval of a certification program is one means of confirming that the requirements have been met. Programmatic arrangements with the Environmental Evaluation Group are outside the scope of the Order and Manual.	• 5820.2A on contract		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.	Category 4; as previously noted, (M. Brown)		
		III.G.	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	Category 1 – no impact, (V. Boyles)		
		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.c.(10)	The Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee shall issue a formal audit report to the responsible field organization following the completion of an audit. The audit report shall describe the activities of the Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee audit team and include a record of any findings, observations, and recommendations. Corrective actions taken as a result of a finding shall be verified on subsequent audits. The Waste Isolation Pilot Plant-Waste Acceptance Criteria Certification Committee* shall institute a tracking system to ensure timely resolution of findings, observations, recommendations, and the resultant corrective actions.	None I.2.F. III.G.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding issuance of an audit report. Instead, 435.1 includes requirements for conducting oversight, for addressing non-conforming wastes that are received, and for taking corrective actions. Field Element Managers. Field Element Managers are responsible for: (10) Oversight. Ensuring oversight of radioactive waste management facilities, operations, and activities is conducted. Oversight shall ensure radioactive waste management program activities are conducted in accordance with a radioactive waste management basis and meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (20) Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	• 5820.2A on contract Category 1 – no impact, (V. Boyles)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3 c.(11)	Failure to resolve and close out previous audit findings and recommendations or sending noncomplying waste to the Waste Isolation Pilot Plant when judged by the Waste Acceptance Criteria Certification Committee to be a serious violation, shall result in suspension of certifying authority, pending satisfactory resolution.	III.F. III.G.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding suspension of certifying authority. Facilities receiving waste have this authority through more general 435.1 requirements. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	N/A: assumed that all waste is managed as high-level waste • 5820.2A on contract Category I – no impact, (V. Boyles)		
II.3.d.(1)	Newly generated transuranic waste shall be placed in noncombustible packaging that meets DOT requirements.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding packaging transuranic waste. Instead, 435.1 invokes DOE and DOT packaging requirements and requires that containers be selected as appropriate for their intended function.	• 5820.2A on contract • 460.1A and O 460.2 on contract: Estimates for implementation of the two transportation orders were previously provided to DOE as follows: • 18K Revision of 3 procedures • 12K Support for 2 DOE assessments If maintenance revision of long-length equipment SARP already scheduled has no new requirements, no incremental costs would be incurred		
		I.1.E.(11) III.L.	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management. Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (1) Packaging. (a) Transuranic waste shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste is removed from the container.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.d.(2)	All Type A transuranic waste containers shall be equipped with a method to prevent pressure buildup. Acceptable pressure-relief devices include permeable gaskets, vent clips, and filtered vents.	III.L.	Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (1) Packaging. (b) Vents or other mechanisms to prevent pressurization of containers or generation of flammable or explosive concentrations of gases shall be installed on containers of newly-generated waste at the time the waste is packaged. Containers of currently stored waste shall meet this requirement as soon as practical unless analyses demonstrate that the waste can otherwise be managed safely.	See above Category 1 – no impact		
II.3.d.(3)	The waste packages shall be marked, labeled, and sealed in accordance with the Waste Isolation Pilot Plant-Waste Acceptance Criteria, EPA, and DOT requirements, as defined in the WIPP-DOE-069, 40 CFR 262, Subpart C, and 49 CFR 172, Subparts D, E, and 49 CFR 173, Subpart I, where applicable, prior to shipping.	None I.1.E.(11) III.L.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding marking and labeling packages. Instead, 435.1 has generally applicable requirements to comply with DOE Orders addressing packaging and transportation, to mark containers, and to comply with applicable external regulations, including RCRA for mixed wastes. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management. Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (d) Containers of transuranic waste shall be marked such that their contents can be identified.	• 5820.2A on contract		
		Order 4.b. III.B.(1)	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives. Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.3.e	Temporary Storage at Generating Sites. The following activities shall be performed to assure the safe storage of transuranic wastes consistent with the requirements of applicable Resource Conservation and Recovery Act regulations:	I.1.E.(10) III.B.(1)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended. Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.			
II.3.e.(1)	Transuranic waste shall be segregated or otherwise clearly identified to avoid the commingling of transuranic waste streams with high-level waste or low-level waste.	None I.1.C.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding segregation of waste types. Instead, 435.1 requires that any waste be managed within one of DOE's waste type programs. Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, Radioactive Waste Management, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.	• 5820.2A on contract		
II.3.e.(2)	Certified transuranic waste shall not be commingled with noncertified transuranic waste and shall be stored in a manner unlikely to alter its certification status.	None I.2.F.(13)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding prohibiting commingling certified and noncertified waste. Instead, 435.1 includes more general requirements to ensure that storage is compatible with final disposal. Storage. Ensuring all radioactive waste is stored in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis, and that the integrity of waste storage is maintained for the expected time of storage and does not compromise meeting the disposal performance objectives for protection of the public and environment when the waste is disposed.	• 5820.2A on contract N/A – managed as HLW N/A – managed as HLW		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		III.N.	Storage. The following requirements are in addition to those in Chapter I of this Manual. (2) Storage Integrity. Transuranic waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure. (3) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of transuranic waste to ensure container integrity is not compromised.	Category 1 – no impact		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (3) Maintaining Certification. Transuranic waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	Category 4; as previously noted, (M. Brown)		
II.3.e.(3)	Transuranic waste in storage areas shall be protected from unauthorized access.	I.1.E.(16)	Safeguards and Security. Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, Safeguards and Security Program.	• O 470.1 on contract with change 1 and RLID 470.1		
		III.N.	Storage. The following requirements are in addition to those in Chapter I of this Manual. (2) Storage Integrity. Transuranic waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure.	Category 1 – no impact		
		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual.	Category 1 – no impact (V. Boyles)		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.3.e.(4)	Transuranic wastes in storage shall be monitored periodically to ensure that the wastes are not releasing their radioactive and/or hazardous constituents.	I.1.E.(10)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	N/A - - managed as HLW		
		III.M.(2)	Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of transuranic waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems. (e) Monitoring. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of transuranic waste storage, treatment, and disposal facilities to provide rapid identification of failed confinement and/or other abnormal conditions.	Category 1 – no impact (V. Boyles)		
II.3.e.(4) Cont.		III.N.	Storage. The following requirements are in addition to those in Chapter I of this Manual. (3) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of transuranic waste to ensure container integrity is not compromised.	Category 1 – no impact (V. Boyles)		
		III.Q.	Monitoring. The following requirements are in addition to those in Chapter I of this Manual. (1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed. (2) Stored Wastes. All transuranic wastes in storage shall be monitored, as prescribed by the appropriate facility safety analysis, to ensure the wastes are maintained in safe condition. (3) Liquid Waste Storage Facilities. For facilities storing liquid transuranic waste, the following shall also be monitored: liquid level and/or waste volume, and significant waste chemistry parameters.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.e.(5)	Transuranic waste storage facilities shall be designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or accidental release of radioactive and/or hazardous components of the waste to the environment.	I.I.E.	(17) Safety Management System. Radioactive waste management facilities, operations, and activities shall incorporate the principles of integrated safety management as described in DOE P 450.4, Safety Management System Policy, and DOE P 450.5, Line Environment, Safety and Health Oversight, and meet the requirements of the safety management systems sections of 48 CFR Chapter 9, Department of Energy Acquisition Regulations and DOE M 411.1-1, Manual of Safety Management Functions, Responsibilities, and Authorities. (18) Site Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.	• P 450.4 not on contract – impact TBD (HOTAREK) • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • M 411.1-1 not on contract - impact TBD (HOTAREK)		
		III.M.(2)	Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (a) Confinement. Transuranic waste systems and components shall be designed to maintain waste confinement. (b) Ventilation. 1. Design of transuranic waste treatment and storage facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations in treatment or storage facilities, ventilation or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation. (d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of transuranic waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems.	Category I – no impact		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.3.e.(6)	Facilities which store transuranic waste shall have a contingency plan designed to minimize the adverse impacts of fire, explosion, or accidental release of hazardous components of the waste to the environment.	I.1.E.(5)	Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving liquid transuranic waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of liquid contained in any one storage tank or treatment facility. Tanks or other facilities that are designated transuranic waste contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	• 151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
II.3.e.(6) Cont.		III.E.	(2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of liquid waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
II.3.e.(7)	Transuranic waste shall be stored in such a way so as to maintain radiation exposures as low as reasonably achievable.	I.2.F. III.N.	Field Element Managers. Field Element Managers are responsible for: (12) As Low As Reasonably Achievable (ALARA). Ensuring ALARA principles for radiation protection are incorporated when reviewing and approving radioactive waste management activities. (2) Storage Integrity. Transuranic waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure.	Category 1 – no impact		
II.3.f.(1)	Transuranic waste shipments shall comply with the provisions of DOE and DOT regulations, pursuant to DOE 1540.1.	I.1.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.3.f.(2)	Transuranic waste shipments by truck shall be by a DOE-controlled carrier system. All transuranic waste shall be transported in certified Type B packaging.	None I.1.E.(11)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding transportation and packaging. Instead, these issues are addressed by invoking DOE's Orders on packaging and transportation. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	• 5820.2A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
I.I.3.f.(3)	Shipping papers shall provide the information required by DOT (49 CFR 172, Subpart C), the Waste Isolation Pilot Plant Data Package (WIPP DOE-157), and, as necessary, the manifest required by EPA (40 CFR 261, and 262).	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding shipping papers. Instead, 435.1 invokes DOE Orders on packaging and transportation and applicable external regulations to address DOT and EPA requirements. Additionally, waste acceptance requirements and transfer requirements address information needs of individual facilities receiving waste.	• 5820.2A on contract		
		I.I.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.			
		III.B.(1)	Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.			
		III.G.	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	Category 1 – no impact (V. Boyles)		
		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	Category 1 – no impact		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.3.f.(4)	Distribution of the shipping papers shall be as follows: (a) Shipper - one copy (or more); (b) Carrier - one copy; and (c) Waste Isolation Pilot Plant - two copies. A copy of the papers will be returned by the Waste Isolation Pilot Plant to the shipper after emplacement of the waste at the Waste Isolation Pilot Plant.	None I.1.E.(11) III.K.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding shipping papers distribution. Instead, 435.1 invokes DOE's Orders on packaging and transportation and requirements to for transferring responsibility for waste and the associated data. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	• 5820.2A on contract Category I – no impact		
II.3.f.(5)	Appropriate EPA and State authorizations/permits shall be obtained for the transport system, as applicable.	None Order 4.b. III.B.(1)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding obtaining required authorizations and permits. Instead, 435.1 invokes more general requirements to comply with applicable laws and regulations, and specifically RCRA. Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives. Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.	• 5820.2A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
II.3.f.(6)	Placarding of shipments shall be carried out, as required by the regulations of DOT (contained in 49 CFR 172, Subpart F).	None Order 4.b. 1.1.E.(11)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding placarding to meet DOT regulations. Instead, 435.1 invokes applicable regulations and the DOE Orders on packaging and transportation which in turn invoke the DOT regulations. Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	• 5820.2A on contract		
II.3.f.(7)	All shipments of transuranic waste shall be in or on "exclusive use" vehicles, as defined in 49 CFR 173. Shipments shall be made as expeditiously as possible and shall be tracked from origin to destination using a real-time tracking communications system. Deviations from " preferred routes," delays and other irregularities detected by the system shall be investigated by the responsible traffic, manager and a report sent to the Waste Isolation Pilot Plant within 90 days.	None 1.1.E.(11)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding management of transportation activities. Instead, 435.1 invokes DOE's Orders on packaging and transportation and does not address programmatic management activities. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	• 5820.2A on contract • DOE O460.1A and DOE O460.2 on contract		
II.3.f.(8)	The Albuquerque Operations Office shall develop a transuranic waste transportation management and operations plan which addresses, but is not limited to, the following considerations: (a) Communication between transport vehicle and traffic management; (b) Shipment tracking in transit; (c) Security; (d) Emergency notification/response; (e) Shipment routing; (f) Shipment notification as appropriate; (g) Driver training and qualifications; (h) Vehicle maintenance and inspection; (i) State surveillance and inspection; and (j) Inspection and recertification of transport packagings.	None 1.1.E.(11)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding transportation management and operations. Instead, 435.1 invokes DOE Orders on packaging and transportation to address these topics. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	• 5820.2A on contract • DOE O460.1A and DOE O460.2 on contract		
II.3.g.(1)	Interim storage sites have been designated for storage of: (a) Waste certified by off site generators; (b) Waste certified by on site generators; (c) Waste certified by interim storage personnel; and (d) Uncertified waste received from on site and/or off site generators that is awaiting processing and certification.	None.	There is not a corresponding 435.1 entry that addresses programmatic topics as this 5820.2A entry did.	• 5820.2A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.g.(2)	New interim storage facilities shall be sited, designed, constructed, and operated consistent with the requirements of applicable Resource Conservation and Recovery Act regulations and in a manner which satisfactorily addresses the following considerations at a minimum:	III.B.(1)	Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.	• 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • 4330.4B on contract		
		I.1.E.(9)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program, including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.	Category 3: Two CM deficiencies (to 10 CFR 830.120) are noted with compensatory actions. Corrective actions, including completion dates, are reported in HNF-SP-1228, Appendix A, actions #2 and #5. (E. Hamm)		
II.3.g.(2)(a)	(a) Proximity to ground water and areas of seismic activity or flood plains shall be identified, and potential impacts shall be evaluated.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding the identified environmental phenomena. Instead, 435.1 includes a more general requirement for site evaluation.	• 5820.2A on contract		
		III.M.(1)	Site Evaluation. Proposed locations for transuranic waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new transuranic waste facility or expansion of an existing transuranic waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities. (b) Proposed sites with environmental characteristics, geotechnical characteristics, and human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	Category 1 – no impact		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.g.(2)(b)	The facility shall be designed and operated to minimize the run on and run off of precipitation. The run off control system shall provide for collecting and sampling run off, which may come in contact with the waste packages, prior to releasing the water for discharge.	III.M (1) III.Q.	Site Evaluation. Proposed locations for transuranic waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new transuranic waste facility or expansion of an existing transuranic waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities. (b) Proposed sites with environmental characteristics, geotechnical characteristics, and human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility. Monitoring. The following requirements are in addition to those in Chapter I of this Manual. All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed.	CATEGORY I – NO IMPACT		
II.3.g.(2)(c)	An environmental monitoring system shall be provided to detect any release and migration of major radioactive and hazardous components. Background levels of primary radioactive and hazardous waste components shall be determined.	I.I.E.(7)	Environmental Monitoring. Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment. Monitoring: The following requirements are in addition to those in Chapter I of this Manual. (1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: Temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gasses. Facility monitoring programs shall include verification that passive and active control systems have not failed. (2) Stored Wastes. All transuranic wastes in storage shall be monitored, as prescribed by the appropriate facility safety analysis, to ensure the wastes are maintained in safe condition. (3) Liquid Waste Storage Facilities. For facilities storing liquid transuranic waste, the following shall also be monitored; liquid level and/or waste volume, and significant waste chemistry parameters.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5400.1 on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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II.3.g.(2)(d)	The storage facility design shall minimize the possibility for the unauthorized entry of persons.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding designing storage facilities to address unauthorized entry. Instead, in addition to invoking safeguards and security requirements ,435.1 establishes a requirement to for responsibility for waste which the guidance explains includes controlling unauthorized access to waste.	• 5820.2A on contract		
		I.1.E.(16)	Safeguards and Security. Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, Safeguards and Security Program.			
		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual.	Category 1 – no impact		
II.3.g.(2)(e)	Incompatible wastes types shall be placed in separate packages and stored in segregated areas to prevent accidental ignition or chemical reaction.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding segregating incompatible waste types. Instead, 435.1 includes more generic requirements to operate in accordance with a hazards analysis, a radioactive waste management basis, and in compliance with RCRA, which addresses many hazardous characteristics of waste.	• 5820.2A on contract • DOE –STD-1027-92 not on contract but being adhered to • DOE-EM-STD-5502-94 not on contract but being adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • O 5480.23 on contract with change 1 – impact TBD (HOTAREK)		
		I.1.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		III.D.	Radioactive Waste Management Basis. Transuranic waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis: (1) Generators. The waste certification program. (2) Treatment Facilities. The waste acceptance requirements and the waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program. (4) Disposal Facilities. The performance assessment, disposal authorization statement, waste acceptance requirements, and monitoring plan.			
		III.B.(1)	Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.			
II.3.g.(2)(f)	Waste storage facilities shall be designed and operated to minimize the exposure of personnel to radiation and chemicals.	I.1.E.(18) I.1.E.(21) III.N.	Site Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management. Worker Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees. Storage. The following requirements are in addition to those in Chapter I of this Manual. (2) Storage Integrity. Transuranic waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure.	• 440.1A and CRD 440.1 on contract • 420.1 on contract with change 2 (DOE C420.1 CRD) – impact TBD (HOTAREK) • O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) Category 1 – no impact		

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II.3.g.(2)(g)	The storage facility operator shall inspect or verify routinely the condition of waste packages at the storage site for deterioration that may threaten human health or cause release of hazardous or radioactive components to the environment.	III.N. III.Q.	Storage. The following requirements are in addition to those in Chapter I of this Manual. (3) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of transuranic waste to ensure container integrity is not compromised. Monitoring. The following requirements are in addition to those in Chapter I of this Manual. (3) Stored Wastes. All transuranic wastes in storage shall be monitored, as prescribed by the appropriate facility safety analysis, to ensure the wastes are maintained in safe condition.	Category 1 – no impact		
~~II.3.g.(2)(h)~~	~~The storage facility operator shall prepare plans that~~ identify and describe how the site will be closed at the end of its active life. These plans shall address sampling, testing, and monitoring for major radioactive and hazardous waste components in soil and groundwater.	~~None~~	~~There is not a corresponding 435.1 requirement that is as~~ specific as the 5820.2A requirement regarding closing, or decommissioning a storage facility. Instead, 435.1 invokes the requirements of DOE O 430.1A which addresses decontamination and decommissioning and RCRA.	• ~~5820.2A on contract~~ • 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • O 4330.4B on contract		
		I.1.E.(9) III.B.(1)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems, to allow reliable analysis of existing and potential hazards to the public and workers. Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.	Category 3: Two CM deficiencies (to 10 CFR 830.120) are noted with compensatory actions. Corrective actions, including completion dates, are reported in HNF-SP-1228, Appendix A, action #2 and #5. (E. Hamm)		

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II.3.g.(2)(I)	Sites that use underground storage tanks for the storage of transuranic waste shall comply with the requirements of RCRA, as applicable.	III.B.(1)	Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual.			
~~II.3.g.(2)(j)~~	~~Permits shall be acquired, as necessary, from appropriate~~ regulatory entities for all the interim storage facility activities listed above.	~~Order 4.b.~~	~~Radioactive waste shall be managed to:~~ (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			
		III.B.	Management of Specific Wastes. The following provide for management of specific wastes as transuranic waste in accordance with the requirements in this Chapter: (1) Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual. (2) TSCA-Regulated Waste. Transuranic waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual. (3) Pre-1970 Transuranic Waste. Transuranic waste disposed of prior to implementation of the 1970 Atomic Energy Commission Immediate Action Directive regarding retrievable storage of transuranic waste is not subject to the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.			
II.3.g.(3)	Existing interim storage sites shall be reviewed for consistency with the items in paragraph 3.g.(2). Any necessary corrective actions shall be performed based on a compliance schedule approved by appropriate regulatory authorities.	Order 4.b.	Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.			

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II.3.g.(4)	Certified waste shall be stored in a manner unlikely to alter the certification of the waste package.	III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (3) Maintaining Certification. Transuranic waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	Category 4; as previously noted (M. Brown)		
II.3.g.(5)	Operators of interim storage facilities shall receive data package information (see Attachment 1, page 2, paragraphs 18 and 20) for each waste package from the generator. The operator shall store the waste generator's data and shall use the data to prepare a new Data Package at the time of shipment to the Waste Isolation Pilot Plant.	III.G.	Waste Acceptance. The following requirements are in addition to those in Chapter 1 of this Manual. (1) Technical and Administrative. Waste acceptance requirements for all transuranic waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following: (a) Allowable activities and/or concentrations of specific radionuclides; (b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal; (c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance; (d) Requirement to identify transuranic waste as defense or non-defense, and limitations on acceptance; and . . .	Category 1 – no impact (V. Boyles)		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste.	Category 4; as previously noted, (M. Brown)		

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II.3.g.(5) (cont.)		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	Category 1 – no impact (V. Boyles)		
II.3.g.(6)	Certified waste from off site generators does not require additional waste analysis or interim inspection, either upon receipt at the storage site or at the time of shipment to the Waste Isolation Pilot Plant. The generator of the certified waste is responsible for describing the waste form and waste package content.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement. Instead, 435.1 requires generators to have appropriate programs for obtaining and certifying information about their wastes and establishes requirements for transfer of responsibility for waste and waste data.	• 5820.2A on contract		
		I.2.F.(7)	Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	Category 4; as previously noted, (M. Brown)		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period.	Category 4; as previously noted, (M. Brown)		

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II.3.g.(6) Cont.		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	Category 1 – no impact (V. Boyles)		
II.3.g.(7)	Waste that has been certified by a generator and shipped to an interim storage site shall be reshipped to the Waste Isolation Pilot Plant by the interim storage site in the following manner: (a) The generator/certifier shall be identified as the generator/certifier and shipping originator. (b) The interim storage site shall be identified as the reshipper. (c) The shipping originator is responsible for certifiability of the waste form, waste package content, waste container procurement documentation, related Data Package information, and proper marking, labeling and placarding of the shipment. The shipping originator is responsible for any problems or discrepancies relating to the above-mentioned items that may occur during shipment to or emplacement at the Waste Isolation Pilot Plant. (d) The reshipper is responsible for complete data package assembly, transmittal, proper marking, labeling, placarding, verifying the adequacy of the exterior condition of the container (e. g., no significant deterioration, bulging) and for proper shipment loading. The reshipper shall perform radiation dose rate and contamination surveys on each package. The reshipper is responsible for any problems or discrepancies involving the items mentioned above.	None I.2.F.(7) III.G. III.J.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement in defining interrelationships of the generator, storage facility and disposal facility. Instead, 435.1 provides a performance framework within which the generator, storage facility and disposal facility can make arrangements as described in the 5820.2A requirement, if appropriate. Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (1) Technical and Administrative. Waste acceptance requirements for all transuranic waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following: . . . Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.	• 5820.2A on contract Category 1 – no impact (V. Boyles) Category 4; as previously noted, (M. Brown)		
II.3.g.(7) Cont.		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	Category 1 – no impact (V. Boyles)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		III.L.	Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (d) Containers of transuranic waste shall be marked such that their contents can be identified.	Category 1 – no impact		
II.3.g.(8)	The interim storage site is the shipping originator for stored waste certified at that site. Agreements may need to be developed between offsite waste generators and interim storage site operators/certifiers to define clearly their respective responsibilities.	None	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding responsibilities for shipments. Instead, 435.1 establishes the generator as responsible for shipments and provides a framework for waste acceptance, certification, and transfer for ensuring waste and data are properly transferred.	• 5820.2A on contract		
		I.2.F.(7)	Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	Category 4; as previously noted, (M. Brown)		
		III.G.	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (1) Technical and Administrative. Waste acceptance requirements for all transuranic waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following: . . .	Category 1 – no impact (V. Boyles		
		III.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met.			
II.3.g.(8) Cont.		III.K.	Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	Category 1 – no impact (V. Boyles)		
II.3.h.(1)	The Waste Isolation Pilot Plant is a defense activity of the DOE for the express purpose of providing a research and development facility to demonstrate the safe disposal of radioactive wastes resulting from defense activities.	None.	This 5820.2A requirement is not needed because the mission and purpose of WIPP has been adequately defined by the WIPP Land Withdrawal Act.	• 5820.2A on contract		
II.3.h.(2)	After the successful demonstration of the safe disposal of defense transuranic wastes, the Waste Isolation Pilot Plant will be the planned destination for all certified contact-handled and remote-handled transuranic waste, including mixed transuranic waste.	None.	This 5820.2A requirement is not needed because the mission and purpose of WIPP has been defined by the WIPP Land Withdrawal Act and the disposition of waste is a Departmental programmatic issue..	• 5820.2A on contract		

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II.3.h.(3)	Prior to shipment of waste, the Waste Isolation Pilot Plant shall validate the data package for that waste shipment.	III.G. III.K.	Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	Category I – no impact (V. Boyles) Category I – no impact (V. Boyles)		
II.3.h.(4)	Upon receipt of waste, Waste Isolation Pilot Plant activities shall include, but not be limited to, the following: (a) Verification of the package or assembly identification numbers against the Data Package; (b) Measurement of the external radiation dose rate of the package and shipping container; (c) Verification that contamination levels on the package and shipping container surfaces are within acceptable limits; and (d) Review and proper processing of all shipping papers and manifests.	None I.1.E.(11) III.G.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding activities associated with waste receipt. Instead, 435.1 invokes the DOE Orders on packaging and transportation which require radiation surveys upon receipt and a more general requirement that facilities receiving waste have a process in place for confirming that waste acceptance requirements are met. Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual. (2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	• 5820.2A on contract Category I – no impact (V. Boyles)		
II.3.h.(5)	During a period of up to 5 years from the first emplacement of waste in the Waste Isolation Pilot Plant, the waste shall be stored retrievable. This phase is called the Operations Demonstration Period.	None.	This 5820.2A requirement has been superseded by the WIPP Land Withdrawal Act.	• 5820.2A on contract		

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II.3.h.(6)	The decision for or against permanent disposal will be made at the end of the Operations Demonstration Period. If the decision is against using the Waste Isolation Pilot Plant as the repository, the stored waste shall be retrieved, repackaged, if necessary, and handled as directed by DOE. At that time, the Waste Isolation Pilot Plant shall be decontaminated, decommissioned, and closed, per agreement with the State of New Mexico.	None.	This 5820.2A requirement has been superseded by the WIPP Land Withdrawal Act.	• 5820.2A on contract		
II.3.h.(7)	If the Waste Isolation Pilot Plant is designated a repository, the underground portion of the Waste Isolation Pilot Plant shall be sealed upon completion of all planned transuranic waste disposal activities. Surface facilities shall be decontaminated and decommissioned, and the Waste Isolation Pilot Plant will be closed, per agreement with the State of New Mexico.	None.	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding closure. Closure will be in accordance with the Certification issued by EPA and in accordance with the State of New Mexico RCRA Part B permit. Also, 435.1 addresses records and markers through more generally applicable requirements and by reference to 40 CFR Part 191.	• 5820.2A on contract		
II.3.h.(8)	Following closure, the salt tailings will be disposed of in an environmentally acceptable manner and the site shall be returned to its natural state. Waste burial record[s] shall be stored securely, and permanent markers shall be installed to minimize the possibility of future human intrusion.	None Order 4.b. I.1.E.(14)	There is not a corresponding 435.1 requirement that is as specific as the 5820.2A requirement regarding closure. Closure will be in accordance with the Certification issued by EPA and in accordance with the State of New Mexico RCRA Part B permit. Also, 435.1 addresses records and markers through more generally applicable requirements and by reference to 40 CFR Part 191. Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives. Records Management. Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, Information Management Program, and DOE O 414.1, Quality Assurance. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste.	• 5820.2A on contract		

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		III.P.	Disposal. Transuranic waste shall be disposed in accordance with the requirements of 40 CFR Part 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.	N/A since RPP is not responsible for disposal of TRU		
II.3.i.(1)	Alternatives for the long term management of buried transuranic-contaminated waste at inactive DOE waste sites are addressed in Attachment 1, page 3, paragraph 22. The inactive waste sites are located at Idaho National Engineering Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory, Savannah River Plant, and the Hanford Site. The program will lead to the closure of each waste site, in compliance with the National Environmental Policy Act requirements, the Comprehensive Environmental Response, Compensation, and Liability Act, the Superfund Amendments and Reauthorization Act, and other applicable DOE, EPA, and State requirements.	None.	This 5820.2A requirement which applied to waste buried prior to there being a definition of transuranic waste is outside the scope of the revised Order and is adequately covered by the existing regulations promulgated under CERCLA.	• 5820.2A on contract		
II.3.i.(2)	Each waste site shall be characterized to include information on types and quantities of radioactive and hazardous chemicals. This information shall be verified by appropriate sampling/analysis/monitoring techniques. The characterization and verification activities will also include determination of waste migration from the burial sites and potential environmental and health impacts.	None.	This 5820.2A requirement which applied to waste buried prior to there being a definition of transuranic waste is outside the scope of the revised Order and is adequately covered by the existing regulations promulgated under CERCLA.	• 5820.2A on contract		
II.3.i.(3)	Each DOE site will develop a closure strategy for the waste site(s), utilizing the waste characterization data. Basic site-closure strategies which could be a combination of (a), (b), and (c) depending on site-specific and regulatory requirements, are as follows: (a) Leave waste in place with enhanced monitoring. (b) Leave waste in place, use enhanced confinement or in-situ immobilization techniques, and provide enhanced monitoring. (c) Retrieve, process, and dispose of the transuranic waste at the Waste Isolation Pilot Plant.	None.	This 5820.2A requirement which applied to waste buried prior to there being a definition of transuranic waste is outside the scope of the revised Order and is adequately covered by the existing regulations promulgated under CERCLA.	• 5820.2A on contract		

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II.3.i.(4)	Each DOE site will develop a site closure plan, which will include, as a minimum, the following: (a) National Environmental Policy Act requirements; (b) Applicable Federal, State and local regulations (e. g., DOE, EPA, State); (c) Permits required; (d) Selected closure strategy and justification; (e) A waste retrieval strategy: 1 Methodology for segregating transuranic and low-level waste, 2 Identification of mixed waste components, 3 Certification of transuranic waste for disposal at the Waste Isolation Pilot Plant, 4 Management of low-level waste and mixed waste, and 5 Plans for maintaining exposures as low as reasonably achievable: (f) Budget requirements by fiscal year; (g) Schedule for closure strategy completion; and (h) Post-closure monitoring and controls.	None.	This 5820.2A requirement which applied to waste buried prior to there being a definition of transuranic waste is outside the scope of the revised Order and is adequately covered by the existing regulations promulgated under CERCLA.	• 5820.2A on contract		
II.3.j	Quality Assurance. Consistent with DOE Order 5700. 6B, transuranic waste operations be conducted in accordance with applicable requirements of the American National Standards Institute/American Society of Mechanical Engineers Nuclear Quality Assurance-1 (see Attachment 1, page 5, paragraph 48) and other appropriate national consensus standards.	*I.I.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.			
		III.D.	Radioactive Waste Management Basis. Transuranic waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis: (1) Generators. The waste certification program. (2) Treatment Facilities. The waste acceptance requirements and the waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program. (4) Disposal Facilities. The performance assessment, disposal authorization statement, waste acceptance requirements, and monitoring plan.			

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		III.H.	Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual. (2) Waste With No Identified Path to Disposal. Transuranic waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste.	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
		III.L.	Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (1) Packaging. (c) When transuranic waste is packaged, defense waste shall be packaged separately from non-defense waste, if feasible.	Category 1 – no impact		
		III.N.	Storage. The following requirements are in addition to those in Chapter I of this Manual. (1) Storage Prohibitions. Transuranic waste in storage shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable.	Category 1 – no impact		
		III.N.	Storage. The following requirements are in addition to those in Chapter I of this Manual. (4) Retrievable Earthen-Covered Storage. Plans for the removal of transuranic waste from retrievable earthen-covered storage facilities shall be established and maintained. Prior to commencing waste retrieval activities, each waste storage site shall be evaluated to determine relevant information on types, quantities, and location of radioactive and hazardous chemicals as necessary to protect workers during the retrieval process.	Category 1 – no impact		
	SECTION BREAK					
O 5820.2A, Attach. 2	DEFINITIONS 20. Low-Level Waste. Waste that contains radioactivity and is not classified as high-level waste, transuranic waste, or spent nuclear fuel or 11e(2) byproduct material as defined by this Order. Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, may be classified as low-level waste, provided the concentration of transuranic is less than 100 nCi/g.	M.IV.A.	Definition of Low-Level Waste. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material.			

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III.1	PURPOSE. To establish policies, requirements and guidelines, for managing the Department' s solid low-level waste.	O.1 M.1	OBJECTIVE. The objective of this Order is to ensure that all Department of Energy (DOE) radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. PURPOSE. This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment.			
III.2.a	POLICY. DOE-low-level waste operations shall be managed to protect the health and safety of the public, preserve the environment of the waste management facilities, and ensure that no legacy requiring remedial action remains after operations have been terminated.	0.4	REQUIREMENTS. b. Radioactive waste shall be managed to: (1) Protect the public from exposure to radioactive materials. Requirements for public radiation protection are in DOE 5400.5, Radiation Protection of the Public and the Environment. (2) Protect the environment. Requirements for environmental protection are in DOE 5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment. (3) Protect the work force. Requirements for radiation protection of workers are in 10 CFR Part 835; requirements for industrial safety are in DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees. (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE Directives.	• 5400.5 on contract with changes 1 and 2 - impact TBD (HOTAREK) • 5400.1 on contract • 440.1A and CRD 440.1 on contract		
III.2.a		M.1.1.E.(20)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.			

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III.2.b	DOE-low-level waste shall be managed on a systematic basis using the most appropriate combination of waste generation reduction, segregation, treatment, and disposal practices so that the radioactive components are contained and the overall system cost effectiveness is maximized.	O.4.	a. DOE radioactive waste management activities shall be systematically planned, executed, and evaluated.			
		M.I.2.B.(1)	Complex-Wide Radioactive Waste Management Programs. Establishing and maintaining integrated Complex-Wide Radioactive Waste Management Programs for high-level, transuranic, low-level, and mixed low-level waste. These programs shall use a systematic approach to planning, execution, and evaluation to ensure that waste generation, storage, treatment, and disposal needs are met and coordinated across the DOE complex.			
		M.IV.C	Complex-Wide Low-Level Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.			
		M.I.2.F.(1)	Site-Wide Radioactive Waste Management Programs. Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	Category 1 – no impact: Existing waste and projected waste streams from current operating facilities are covered under the site-wide planning requirements.		

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III.2.c	DOE-low-level waste shall be disposed of on the site at which it is generated, if practical, or if on-site disposal capability is not available, at another DOE disposal facility.	M.1.2.F.(4)	(4) Approval of Exemptions for Use of Non-DOE Facilities. DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. If DOE capabilities are not practical or cost effective, exemptions may be approved to allow use of non-DOE facilities for the storage, treatment, or disposal of DOE radioactive waste based on the following requirements: (a) Such non-DOE facilities shall: 1. Comply with applicable Federal, State, and local requirements; 2. Have the necessary permit(s), license(s), and approval(s) for the specific waste(s); and			
			3. Be determined by the Field Element Manager to be acceptable based on a review conducted annually by DOE. (b) Exemptions for the use of non-DOE facilities shall be documented to be cost effective and in the best interest of DOE, including consideration of alternatives for on-site disposal, an alternative DOE site, and available non-DOE facilities; consideration of life-cycle cost and potential liability; and protection of public health and the environment. (c) DOE waste shall be sufficiently characterized and certified to meet the facility's waste acceptance criteria. (d) Appropriate National Environmental Policy Act (NEPA) review must be completed. For actions taken under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), it is DOE's policy to incorporate NEPA values into the CERCLA documentation. (e) Headquarters shall be notified of any exemption allowing use of a non-DOE facility and the Office of the Assistant Secretary for Environment, Safety and Health (EH-1) shall be consulted prior to the exemption being executed. (f) Host States and State Compacts where non-DOE facilities are located shall be consulted prior to approval of an exemption to use such facilities and notified prior to shipments being made.			

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III.2.d	DOE-low-level waste that contains non-radioactive hazardous waste components (mixed waste) shall conform to the requirements of this order, applicable EH Orders, and shall also be regulated by the appropriate regional authorities under the Resource Conservation and Recovery Act.	M.I.I.E.(10) M.IV.B.(1)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended. Mixed Low-Level Waste. Low-level waste determined to contain both source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, *Radioactive Waste Management, and this Manual.*			
III.3.a	Performance Objectives. DOE-low-level waste that has not been disposed of prior to issuance of this Order shall be managed on the schedule developed in the Implementation Plan (See page 7, paragraph 10) to accomplish the following:	M.IV.P.(1)	Performance Objectives. Low-level waste disposal facilities shall be sited, designed, operated, maintained, and closed so that a reasonable expectation exists that the following performance objectives will be met for waste disposed of after September 26, 1988:			
III.3.a.(1)	Protect public health and safety in accordance with standards specified in applicable EH Orders and other DOE Orders.	O.4.	REQUIREMENTS. b. Radioactive waste shall be managed to: (1) Protect the public from exposure to radioactive materials. Requirements for public radiation protection are in DOE 5400.5, Radiation Protection of the Public and the Environment. (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE Directives.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
III.3.a.(2)	Assure that external exposure to the waste and concentrations of radioactive material which may be released into surface water, ground water, soil, plants and animals results in an effective dose equivalent that does not exceed 25 mrem/yr to any member of the public. Releases to the atmosphere shall meet the requirements of 40 CFR 61. Reasonable effort should be made to maintain releases of radioactivity in effluents to the general environment as low as is reasonably achievable.	M.IV.P.(1) M.IV.P.(2)(f)	Performance Objectives. (a) Dose to representative members of the public shall not exceed 25 mrem (0.25 mSv) in a year total effective dose equivalent from all exposure pathways, excluding the dose from radon and its progeny in air. (b) Dose to representative members of the public via the air pathway shall not exceed 10 mrem (0.10 mSv) in a year total effective dose equivalent, excluding the dose from radon and its progeny. (c) Release of radon shall be less than an average flux of 20 pCi/m²/s (0.74 Bq/m²/s) at the surface of the disposal facility. Alternatively, a limit of 0.5 pCi/l (0.0185 Bq/l) of air may be applied at the boundary of the facility. Performance assessments shall include a demonstration that projected releases of radionuclides to the environment shall be maintained as low as reasonably achievable (ALARA).	Category 1 – no impact: PA related activities are currently funded as part of RPP's Immobilized Waste Storage and Disposal Program (K. Burgard)		

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III.3.a.(3)	Assure that the committed effective dose equivalents received by individuals who inadvertently may intrude into the facility after the loss of active institutional control (100 years) will not exceed 100 mrem/yr for continuous exposure or 500 mrem for a single acute exposure.	M.IV.P.(2)(h)	For purposes of establishing limits on the concentration of radionuclides that may be disposed of near-surface, the performance assessment shall include an assessment of impacts calculated for a hypothetical person assumed to inadvertently intrude for a temporary period into the low-level waste disposal facility. For intruder analyses, institutional controls shall be assumed to be effective in deterring intrusion for at least 100 years following closure. The intruder analyses shall use performance measures for chronic and acute exposure scenarios, respectively, of 100 mrem (1 mSv) in a year total effective dose equivalent and 500 mrem (5 mSv) total effective dose equivalent excluding radon in air.	Category 1 – no impact: PA-related activities are currently funded as part of RPP's Immobilized Waste Storage and Disposal Program (K. Burgard)		
III.3.a.(4)	Protect ground water resources, consistent with Federal, state and local requirements.	O.4. M.IV.P.(2)(g)	REQUIREMENTS. b. Radioactive waste shall be managed to: (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE Directives. For purposes of establishing limits on radionuclides that may be disposed of near-surface, the performance assessment shall include an assessment of impacts to water resources.	Category 1 – no impact: PA-related activities are currently funded as part of RPP's Immobilized Waste Storage and Disposal Program (K. Burgard)		
III.3.b.(1)	Field organizations with disposal sites shall prepare and maintain a site specific radiological performance assessment for the disposal of waste for the purpose of demonstrating compliance with the performance objectives stated in paragraph 3a.	M.I.2.F.(15)	Disposal. Ensuring radioactive waste is disposed in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis. Reviewing specific transuranic and low-level waste documentation including the performance assessment and composite analysis, or appropriate CERCLA documentation, prior to forwarding them to Headquarters for approval, and obtaining and ensuring the facility is operated in accordance with the disposal authorization statement. Conducting performance assessment and composite analysis maintenance.	Category 1 – no impact: PA-related activities are currently funded as part of RPP's Immobilized Waste Storage and Disposal Program (K. Burgard)		

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III.3.b.(1) Cont.		M.IV.P.(2)	Performance Assessment. A site-specific radiological performance assessment shall be prepared and maintained for DOE low-level waste disposed of after September 26, 1988. The performance assessment shall include calculations for a 1,000 year period after closure of potential doses to representative future members of the public and potential releases from the facility to provide a reasonable expectation that the performance objectives identified in this Chapter are not exceeded as a result of operation and closure of the facility.	Category 1 – no impact, (K. Burgard)		
		M.IV.P.(3)	Composite Analysis. For disposal facilities which received waste after September 26, 1988, a site-specific radiological composite analysis shall be prepared and maintained that accounts for all sources of radioactive material that may be left at the DOE site and may interact with the low-level waste disposal facility, contributing to the dose projected to a hypothetical member of the public from the existing or future disposal facilities. Performance measures shall be consistent with DOE requirements for protection of the public and environment and evaluated for a 1,000 year period following disposal facility closure. The composite analysis results shall be used for planning, radiation protection activities, and future use commitments to minimize the likelihood that current low-level waste disposal activities will result in the need for future corrective or remedial actions to adequately protect the public and the environment.	Category 1 – no impact, (K. Burgard)		
		M.IV.P.(4)	Performance Assessment and Composite Analysis Maintenance. The performance assessment and composite analysis shall be maintained to evaluate changes that could affect the performance, design, and operating bases for the facility. Performance assessment and composite analysis maintenance shall include the conduct of research, field studies, and monitoring needed to address uncertainties of gaps in existing data. The performance assessment shall be updated to support the final facility closure. Additional iterations of the performance assessment and composite analysis shall be conducted as necessary during the post closure period.	Category 1 – no impact (K. Burgard)		

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			(a) Performance assessments and composite analyses shall be reviewed and revised when changes in waste forms or containers, radionuclide inventories, facility design and operations, closure concepts, or the improved understanding of the performance of the waste disposal facility in combination with the features of the site on which it is located alter the conclusions or the conceptual model(s) of the existing performance assessment or composite analysis.	KEN BURGARD to review/assure compliance is/was funded (PAs) – paragraphs F/G/H, 2/3/4		
III.3.b.(2)	Each field organization shall, for each DOE reservation within its cognizance, prepare and maintain an over all waste management systems performance assessment supporting the combination of waste management practices used in generation reduction, segregation, treatment, packaging, storage, and disposal. Background and guidance on waste management systems performance assessment is provided in Attachment 1, page 3, paragraph 21.	None M.I.2.F.(1) M.IV.H.(1)	[The concept of the systems performance assessment is embodied in the following requirements] Site-Wide Radioactive Waste Management Programs. Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all low-level waste streams.	Category 1- no impact: Existing waste and projected waste streams from current operating facilities are covered under the site-wide planning requirements. CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
III.3.b.(3)	Where practical, monitoring measurements to evaluate actual and prospective performance should be made at locations as required, within and outside each facility and Disposal Site. Monitoring should also be used to validate or modify the models used in performance assessments.	M.IV.R.(3)	Disposal Facilities. A preliminary monitoring plan for a low-level waste disposal facility shall be prepared and submitted to Headquarters for review with the performance assessment and composite analysis. The monitoring plan shall be updated within one year following issuance of the disposal authorization statement to incorporate and implement conditions specified in the disposal authorization statement. (a) The site-specific performance assessment and composite analysis shall be used to determine the media, locations, radionuclides, and other substances to be monitored.	Category 4: A post-closure monitoring plan will be included in the Closure Plan. A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY 2010. The current schedule does not include updates following receipt of the disposal authorization. This will be added to the schedule in FY 2000. Cost impact is expected to be minor compared to the overall cost for closure. (P. McCarthy) Category 4 : Requires a monitoring plan which is a new requirement. The authorization letter for immobilized low-activity was (ILAW) Disposal Facilities requires it to be completed one year after the date of the authorization, which was 10-25-99. An additional $150K will be required between now and 10-25-2000 to meet this requirement.		COST IMPACT Identified via M.IV.Q.(2)(a) $ 75 K

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		M.IV.P.(4)(a)	(a) Performance assessments and composite analyses shall be reviewed and revised when changes in waste forms or containers, radionuclide inventories, facility design and operations, closure concepts, or the improved understanding of the performance of the waste disposal facility in combination with the features of the site on which it is located alter the conclusions or the conceptual model(s) of the existing performance assessment or composite analysis.			
III.3.c.(1)	Technical and administrative controls shall be directed to reducing the gross volume of waste generated and/or the amount of radioactivity requiring disposal. Waste reduction efforts shall include consideration of process modification, process optimization, materials substitution and decontamination.	M.I.1.E.(20)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.	• 5400.1 on contract		
		M.I.2.F.(3)	Waste Minimization and Pollution Prevention. Ensuring implementation of waste minimization and pollution prevention programs.		$75 K	
III.3.c.(2)	Waste Generation Reduction. All DOE-low-level waste generators shall establish auditable programs (goals, incentives, procedures, and reports) to assure that the amount of low-level waste generated and/or shipped for disposal is minimized.	M.I.1.E.(20)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.	• 5400.1 on contract		
		M.I.2.F.(3)	Waste Minimization and Pollution Prevention. Ensuring implementation of waste minimization and pollution prevention programs.			
		M.IV.H.(1)	Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all low-level waste streams.	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
		M.IV.L.(2)	Transportation. To the extent practical, the volume of waste and number of low-level waste shipments shall be minimized.			

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III.3.c.(3)	Waste Segregation. Each DOE low-level waste generator shall separate uncontaminated waste from low-level waste to facilitate cost effective treatment and disposal.	None	[Cost-effective management of "uncontaminated" low-level waste is included in the following requirement] M.I.1.E.(15) - Release of Waste Containing Residual Radioactive Material Determination. Processes for determining and documenting that waste is suitable to be released and managed without regard to its radioactive content shall be in accordance with the criteria and meet the requirements in DOE 5400.5, Radiation Protection of the Public and the Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
III.3.c.(4)	Waste Minimization. Each DOE-low-level waste generator preparing a design for a new process or process change shall incorporate principles into the design that will minimize the generation of low level waste.	M.I.1.E.(20) M.I.2.F.(7)	Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program. Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	• 5400.1 on contract		
III.3.d.(1)	Low-level waste shall be characterized with sufficient accuracy to permit proper segregation, treatment, storage, and disposal. This characterization shall ensure that, upon generation and after processing, the actual physical and chemical characteristics and major radionuclide content are recorded and known during all stages of the waste management process.	M.IV.I. M.IV.K.(2)	Waste Characterization. Low-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. Data. Waste characterization and container information, and generation, storage, treatment, and transportation information for low-level waste shall be transferred with or be traceable to the waste.	Category 1 – no impact, (V. Boyles)		

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III.3.d.(2)	Waste characterization data shall be recorded on a waste manifest, as required by paragraph 3m, and shall include: (a) The physical and chemical characteristics of the waste. (b) Volume of the waste (total of waste and any solidification or absorbent media). (c) Weight of the waste (total of waste and any solidification or absorbent media). (d) Major radionuclides and their concentrations. (e) Packaging date, package weight, and external volume.	M.IV.I.(2)	Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides; (e) Characterization date; (f) Generating source; and (g) Any other information which may be needed to prepare and maintain the disposal facility performance assessment, or demonstrate compliance with applicable performance objectives.	Category 1 – no impact, (V. Boyles)		
III.3.d.(3)	The concentration of a radionuclide may be determined by direct methods or by indirect methods such as use of scaling factors which relate the inferred concentration of one radionuclide to another that is measured, or radionuclide material accountability, if there is reasonable assurance that the indirect methods can be correlated with actual measurements.	M.IV.I	Waste Characterization. Low-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	Category 1 – no impact, (V. Boyles)		
III.3.e.(1)	Waste shipped from one field organization to another for treatment, storage or disposal shall be done in accordance with the requirements established by the operations office having responsibility for operations of the receiving facility.	M.IV.J M.IV.K.(1)	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving low-level waste for storage, treatment, and disposal are met. (2) Certification Before Transfer. Low-level waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste. Authorization. Low-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	Category 4; as previously noted, (M. Brown)		
III.3.e.(2)	Waste acceptance criteria shall be established for each low-level waste treatment, storage, and disposal facility, and submitted to the cognizant field organization.	M.I.2.F.(6)	Radioactive Waste Acceptance Requirements. Ensuring development, review, approval, and implementation of the radioactive waste acceptance requirements for facilities that receive waste for storage, treatment, or disposal. Radioactive waste acceptance requirements shall establish the facility's requirements for the receipt, evaluation, and acceptance of waste.			

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III.3.e.(3)	Generators of waste shall implement a low-level waste certification program to provide assurance that the waste acceptance criteria for any low-level waste treatment, storage, or disposal facility used by the generator are met. Generators and facilities receiving the waste are jointly responsible for assuring compliance with waste acceptance criteria. Generators are financially responsible for actions required due to nonconformance.	M.IV.J.	Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving low-level waste for storage, treatment, and disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Low-level waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste.	Category 4; as previously noted, (M. Brown)		
III.3.e.(4)	Generator low-level waste certification programs shall be subject to a periodic audit by operators of facilities to which the waste is sent by the generator.	M.IV.G.(2)	Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that the technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	Category 1 – no impact, (V. Boyles)		
		M.IV.J.(1)	Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period.	Category 4; as previously noted. (M. Brown)		
III.3.e.(5)(a)	The waste acceptance criteria for storage, treatment, or disposal facilities shall address the following issues: Allowable quantities/concentrations of specific radioisotopes to be handled, processed, stored or disposed of;	M.IV.G	Waste Acceptance. (1) Technical and Administrative. Waste acceptance requirements for all low-level waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following: (a) Allowable activities and/or concentrations of specific radionuclides.	Category 1 – no impact, (V. Boyles)		
III.3.e.(5)(b)	Criticality safety requirements (waste forms and geometries);	M.IV.G.(1)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal.	Category 1 – no impact, (V. Boyles)		
III.3.e.(5)(c)	Restrictions regarding low-level waste classified for security reasons:	M.IV.G.(1)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal.	Category 1 – no impact, (V. Boyles)		

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III.3.e.(5)(d)	External radiation and internal heat generation;	M.IV.G.(1)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal. (c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance.	Category 1 – no impact, (V. Boyles)		
III.3.e.(5)(e)	Restrictions on the generation of harmful gases, vapors, or liquids in waste;	M.IV.G.(1)	(c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance.	Category 1 – no impact, (V. Boyles)		
III.3.e.(5)(f)	Chemical and structural stability of waste packages, radiation effects, microbial activity, chemical reactions, and moisture;	M.IV.G.(1)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal. (c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance.	Category 1 – no impact, (V. Boyles)		
III.3.e.(5)(g)	Restrictions for chelating and completing agents having the potential for mobilizing radionuclides; and	M.IV.G.(1)	(c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance.	Category 1 – no impact, (V. Boyles)		
III.3.e.(5)(h)	Quantity of free liquids.	M.IV.G.(1)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal.	Category 1 – no impact, (V. Boyles)		
III.3.f.(1)	Waste shall be treated by appropriate methods so that the disposal site can meet the performance objectives stated in paragraph 3a.	M.IV.O	Treatment. Low-level waste treatment to provide more stable waste forms and to improve the long-term performance of a low-level waste disposal facility shall be implemented as necessary to meet the performance objectives of the disposal facility.	Category 1 – no impact, (V. Boyles)		
III.3.f.2	Waste treatment techniques such as incineration, shredding, and compaction to reduce volume and provide more stable waste forms shall be implemented as necessary to meet performance requirements. Use of waste treatment techniques to increase the life of the disposal facility and improve long-term facility performance, by improved site stability and reduction of infiltrating water, is required to the extent it is cost effective.	M.IV.O M.IV.G.(1)(d)1.	Treatment. Low-level waste treatment to provide more stable waste forms and to improve the long-term performance of a low-level waste disposal facility shall be implemented as necessary to meet the performance objectives of the disposal facility. Low-level waste must contribute to and not detract from achieving long-term stability of the facility, minimizing the need for long-term active maintenance, minimizing subsidence, and minimizing contact of water with waste. Void spaces within the waste and, if containers are used, between the waste and its container shall be reduced to the extent practical.	Category 1 – no impact, (V. Boyles)		

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III.3.f.(3)	The development of large scale waste treatment facilities shall be supported by appropriate National Environmental Policy Act documentation in addition to the following:	M.I.1.D	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.			
III.3.f.(3)(a)	(For the development of large scale waste treatment facilities.) A document shall be prepared that analyzes waste streams needing treatment, treatment options considered and a rationale for selection of proposed treatment processes;	M.I.2.D.(1)	Complex-Wide Radioactive Waste Management Program Plans. Developing, implementing, and maintaining integrated Complex-Wide Radioactive Waste Management Program Plans for high-level, transuranic, low-level, and mixed low-level waste. Each plan shall, at the DOE complex-wide level, describe the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat and dispose of radioactive waste in a manner that is protective of the public, workers, and the environment. In addition, the plans shall: (a) Present a waste management strategy that integrates waste projections and life-cycle waste management planning into complex-wide facility configuration decisions; and			
III.3.f.(3)(b)	(For the development of large scale waste treatment facilities.) A construction design report including projected waste throughputs and treatment methods, construction and operating cost estimates.	M.I.1.E.(9)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems, to allow reliable analysis of existing and potential hazards to the public and workers.	• 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • O 4330.4B on contract Compliance analysis previously provided.		
III.3.f.(3)(c)	(For the development of large scale waste treatment facilities). A Safety Analysis Report.	M.I.1.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	• DOE-STD-1027-92 not on contract – impact TBD (HOTAREK) • DOE-EM-STD-5502-94 not on contract – impact TBD (HOTAREK) • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • O 5480.23 on contract with change 1 – impact TBD (HOTAREK)		

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III.3.f.(4)(a)	Operation of waste treatment facilities shall be supported by adequate documentation including the following: Operation and maintenance procedures;	M.I.1.E.(3)	Conduct of Operations. Radioactive waste management facilities, operations, and activities shall be conducted in a manner based on consideration of the associated hazards. Waste management facilities, operations, and activities shall meet the requirements of DOE 5480.19, Conduct of Operations Requirement for DOE Facilities.	• 5480.19 on contract with change 1 – impact TBD (HOTAREK)		
III.3.f.(4)(b)	Operation of waste treatment facilities shall be supported by adequate documentation including the following: Personnel training and qualification procedures;	M.I.1.E.(19)	Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities.			
III.3.f.(4)(c)	Operation of waste treatment facilities shall be supported by adequate documentation including the following: Monitoring and emergency response plans; and	M.I.1.E.(7) M.I.1.E.(5)	Environmental Monitoring. Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, General Environmental Protection; and DOE 5400.5, Radiation Protection of the Public and the Environment. Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5400.1 on contract • 151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
III.3.f.(4)(d)	Operation of waste treatment facilities shall be supported by adequate documentation including the following: Records shall be maintained for each package of low-level waste that enters and leaves the treatment facility.	M.I.1.E.(14) M.IV.K.(2)	Records Management. Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, Information Management Program, and DOE O 414.1, Quality Assurance. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste. Data. Waste characterization and container information, and generation, storage, treatment, and transportation information for low-level waste shall be transferred with or be traceable to the waste.	Category 1 – no impact		

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III.3.g.(1)	The volume of waste and number of shipments of low-level waste shall be minimized and the shipments will be conducted based on plans developed by field organizations. Off site shipment of low-level waste shall be in compliance with DOE 1540.1.	M.I.2.F.(1)	Site-Wide Radioactive Waste Management Programs. Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	Category 1 – no impact: Existing waste and projected waste streams from current operating facilities are covered under the site-wide planning requirements.		
		M.I.1.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	Category 1 – no impact		
		M.IV.L.(2)	Transportation. To the extent practical, the volume of waste and number of low-level waste shipments shall be minimized.	Category 1 – no impact		
III.3.g.(2)	Generators shall provide an annual forecast in the third quarters of the fiscal year to the field organizations managing the off-site disposal facility to which the waste is to be shipped.	M.I.2.F.(7)	Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	Category 4; as previously noted, (M. Brown)		
		M.IV.H.(1)	Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all low-level waste streams.	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
III.3.g.(3)	Generators must receive advance approval from the receiving facility and shall certify prior to shipment that waste meets the receiving facility waste acceptance criteria. The certification program shall be audit able and able to withstand independent review.	M.IV.K	Waste Transfer. (1) Authorization. Low-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	Category 1 – no impact, (V. Boyles)		
		M.IV.J	Waste Certification. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for auditability, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Low-level waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste.	Category 4; as previously noted, (M. Brown)		

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III.3.g.(4)	Each package of waste must comply with the labeling requirements of DOE 1540.1.	M.I.1.E.(11)	Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	Category 1 – no impact		
		M.IV.L.(1)	Packaging. If containers are used: (c) Containers of low-level waste shall be marked such that their contents can be identified.	Category 1 – no impact		
III.3.h.(1)	Low-level waste shall be stored by appropriate methods, to achieve the performance objectives stated in paragraph 3a.	M.I.2.F.(13)	Storage. Ensuring all radioactive waste is stored in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis, and that the integrity of waste storage is maintained for the expected time of storage and does not compromise meeting the disposal performance objectives for protection of the public and environment when the waste is disposed.	N/A since the RPP will not store LLW.		
III.3.h.(2)	Records shall be maintained for all low-level waste that enters and leaves the storage facility, (see paragraph 3m).	M.I.1.E.(14)	Records Management. Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, Information Management Program, and DOE O 414.1, Quality Assurance. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste.	Category 1 – no impact		
		M.IV.K	Waste Transfer. (2) Data. Waste characterization and container information, and generation, storage, treatment, and transportation information for low-level waste shall be transferred with or be traceable to the waste.	Category 1 – no impact		
		M.IV.N.(4)	Waste Characterization for Storage. (b) Characterization information for all low-level waste in storage shall be maintained as a record in accordance with the requirements for Records Management in Chapter I of this Manual.	N/A since the RPP will not store LLW.		

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III.3.h.(3)(a)	The development and operation of a waste storage facility shall be supported by the following documentation (two or more of these may be combined for convenience): An analysis which identifies the need for the storage facility.	M.1.2.D.(1)	Complex-Wide Radioactive Waste Management Program Plans. Developing, implementing, and maintaining integrated Complex-Wide Radioactive Waste Management Program Plans for high-level, transuranic, low-level, and mixed low-level waste. Each plan shall, at the DOE complex-wide level, describe the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat and dispose of radioactive waste in a manner that is protective of the public, workers, and the environment. In addition, the plans shall: (a) Present a waste management strategy that integrates waste projections and life-cycle waste management planning into complex-wide facility configuration decisions.	N/A since the program plans are developed and maintained by DOE-HQ		
III.3.h.(3)(b)	A Construction Design Report, including projected waste planned for storage; construction and operating cost estimates;	M.1.1.E.(9)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems, to allow reliable analysis of existing and potential hazards to the public and workers.	• 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • O 4330.4B on contract Compliance analysis previously provided.		
III.3.h.(3)(c)	A Safety Analysis Report and appropriate National Environmental Policy Act documentation; and	M.1.1.E.(8)	Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	• DOE-STD-1027-92 not on contract but being adhered to • DOE-EM-STD-5502-94 not on contract but being adhered to • 425.1A not on contract – impact TBD (HOTAREK) • 5480.21 on contract • 5480.22 on contract with changes 1 and 2 – impact TBD (HOTAREK) • O 5480.23 on contract with change 1 – impact TBD (HOTAREK)		
		M.1.1.D	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.			

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III.3.h.(3)(4)	Operational procedures and plans.	M.I.1.E.(3)	Conduct of Operations. Radioactive waste management facilities, operations, and activities shall be conducted in a manner based on consideration of the associated hazards. Waste management facilities, operations, and activities shall meet the requirements of DOE 5480.19, Conduct of Operations Requirement for DOE Facilities.	• 5480.19 on contract with change 1 – impact TBD (HOTAREK)		
III.3.h.(4)	Storage of waste to allow for nuclides to decay or storage of wastes until they can be disposed of by approved methods are acceptable.	M.I.2.F.(13) M.IV.N.(2)	Storage. Ensuring all radioactive waste is stored in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis, and that the integrity of waste storage is maintained for the expected time of storage and does not compromise meeting the disposal performance objectives for protection of the public and environment when the waste is disposed. Storage Limit. Low-level waste that has an identified path to disposal shall not be stored longer than one year prior to disposal, except for storage for decay, or as otherwise authorized by the Field Element Manager.	Category 4: LMHC only stages (does not store) low-level waste once material/equipment is packaged for disposal with an inventory sheet attached. Low-level waste must leave LMHC no later than 90 days after generation; therefore, storage does not apply. To ensure compliance, an initial facility walkdown is to be performed, followed by a procedure change to TO-100-052, "Waste Handling Procedure" to include new requirements. Training will then be developed/administered to waste handling personnel.	$125 K	$75 K
III.3.i.(1)	Low-level waste shall be disposed of by methods appropriate to achieve the performance objectives stated in paragraph 3a, consistent with the disposal site radiological performance assessment in paragraph 3b.	M.IV.P.(1) M.IV.P.(6)	Performance Objectives. Low-level waste disposal facilities shall be sited, designed, operated, maintained, and closed so that a reasonable expectation exists that the following performance objectives will be met for waste disposed of after September 26, 1988: Disposal Facility Operations. The disposal facility design and operation must be consistent with the disposal facility closure plan and lead to disposal facility closure that provides a reasonable expectation that performance objectives will be met. Low-level waste shall be disposed in such a manner that achieves the performance objectives stated in this Chapter, consistent with the disposal facility radiological performance assessment.	Category 1 – no impact (K. Burgard) Category 1 – no impact (K. Burgard)		
III.3.i.(2)	Engineered modifications (stabilization, packaging, burial depth barriers) for specific waste types and for specific waste compositions (fission products, induced radioactivity, uranium, thorium, radium) for each disposal site shall be developed through the performance assessment model(see paragraph 3b(1)). In the course of this process, site specific waste classification limits may be developed if operationally useful in determining how specific wastes should be stabilized and packaged for disposal.	M.IV.P.(6) M.IV.O.	Disposal Facility Operations. The disposal facility design and operation must be consistent with the disposal facility closure plan and lead to disposal facility closure that provides a reasonable expectation that performance objectives will be met. Low-level waste shall be disposed in such a manner that achieves the performance objectives stated in this Chapter, consistent with the disposal facility radiological performance assessment. Treatment. Low-level waste treatment to provide more stable waste forms and to improve the long-term performance of a low-level waste disposal facility shall be implemented as necessary to meet the performance objectives of the disposal facility.	Category 1 – no impact (K. Burgard) N/A since the RPP does not treat LLW.		

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III.3.i.(3)	An Oversight and Peer Review Panel of DOE, contractor, and other specialists in performance assessments will be selected by DP-12, with participation by EH-1 and operations office representatives. Through consultation and review, this panel shall ensure consistency and technical quality around the DOE complex in the development and application of performance assessment models that include site specific geohydrology and waste composition.	M.I.2.E	Deputy Assistant Secretaries for Waste Management and Environmental Restoration. The Deputy Assistant Secretary for Waste Management and the Deputy Assistant Secretary for Environmental Restoration are responsible, within their respective programs, for: (1) Disposal. Reviewing and approving, along with EH-1, transuranic waste disposal facility performance assessments and other disposal documents as required in waste specific chapters for which DOE is responsible for making compliance determinations. Reviewing and approving performance assessments and composite analyses, or appropriate CERCLA documentation, for low-level waste disposal facilities, and issuing disposal authorization statements. (a) The Deputy Assistant Secretaries shall establish a review panel consisting of DOE personnel to review low-level waste disposal facility performance assessments and composite analyses, review appropriate CERCLA documentation, recommend low-level waste disposal facility compliance determinations to the Deputy Assistant Secretaries, and develop disposal authorization statements. (b) The Deputy Assistant Secretaries shall issue disposal authorization statements containing conditions that low-level waste disposal facilities must meet in order to operate with an approved radioactive waste management basis.			
III.3.i.(4)	Disposition of waste designated as greater-than-class C, as defined in 10 CFR 61.55, must be handled as special cases. Disposal systems for such waste must be justified by a specific performance assessment through the National Environmental Policy Act process and with the concurrence of DP-12 for all DP-1 disposal facilities and of NE-20 for those disposal facilities under the cognizance of NE-1.	None M.I.1.D	[A performance assessment must be done for any low-level waste disposal facility, in accordance with IV.P.(2). For additional discussions, see Technical Basis for Requirement IV.P.(2)(h) - analysis to establish radionuclide concentrations for near-surface disposal in the performance assessment.] Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	• O 451.1A on contract Category 1 – no impact		
III.3.i.(5)	The following are additional disposal requirements intended either to improve stability of the disposal site or to facilitate handling and provide protection of the health and safety of personnel at the disposal site:	M.IV.G.(1)(d)	The following are additional waste acceptance requirements that shall be specified in low-level waste disposal facility waste acceptance requirements:	Category 1 – no impact, (V. Boyles)		

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III.3.i.(5)(a)	Waste must not be packaged for disposal in cardboard or fiberboard boxes, unless such boxes meet DOT requirements and contain stabilized waste with a minimum of void space. For all types of containers, void spaces within the waste and between the waste and its packaging shall be reduced as much as practical.	M.IV.L.(1) M.IV.G.(1)(d)1.	Packaging. If containers are used: (a) Low-level waste shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste has been removed from the container. Low-level waste must contribute to and not detract from achieving long-term stability of the facility, minimizing the need for long-term active maintenance, minimizing subsidence, and minimizing contact of water with waste. Void spaces within the waste and, if containers are used, between the waste and its container shall be reduced to the extent practical.	Category 1 – no impact Category 1 – no impact, (V. Boyles)		
III.3.i.(5)(b)	Liquid wastes, or wastes containing free liquid, must be converted into a form that contains as little freestanding and noncorrosive liquid as is reasonably achievable, but, in no case, shall the liquid exceed 1 percent of the volume of the waste when the waste is in a disposal container, or 0. 5 percent of the volume of the waste processed to a stable form.	M.IV.G.(1)(d)2.	Liquid low-level waste or low-level waste containing free liquid must be converted into a form that contains as little freestanding liquid as is reasonably achievable, but in no case shall the liquid exceed 1 percent of the waste volume when the low-level waste is in a disposal container, or 0.5 percent of the waste volume after it is processed to a stable form.	Category 1 – no impact, (V. Boyles)		
III.3.i.(5)(c)	Waste must not be readily capable of detonation or of explosive decomposition or reaction at normal pressures and temperatures, or of explosive reaction with water.	M.IV.G.(1)(d)3.	Low-level waste must not be readily capable of detonation or of explosive decomposition or reaction at anticipated pressures and temperatures, or of explosive reaction with water. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable.	Category 1 – no impact, (V. Boyles)		
III.3.i.(5)(d)	Waste must not contain, or be capable of generating, quantities of toxic gases, vapors, or fumes harmful to persons transporting, handling, or disposing of the waste. This does not apply to radioactive gaseous waste packaged as identified in paragraph 3i(5) (e).	M.IV.G.(1)(d)4.	Low-level waste must not contain, or be capable of generating by radiolysis or biodegradation, quantities of toxic gases, vapors, or fumes harmful to the public or workers or disposal facility personnel, or harmful to the long-term structural stability of the disposal site.	Category 1 – no impact, (V. Boyles)		
III.3.i.(5)(e)	Waste in a gaseous form must be packaged at a pressure that does not exceed 1.5 atmospheres at 20°C.	M.IV.G.(1)(d)5.	Low-level waste in a gaseous form must be packaged such that the pressure does not exceed 1.5 atmospheres absolute at 20°C.	Category 1 – no impact, (V. Boyles)		
III.3.i.(5)(f)	Waste must not be pyrophoric. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable.	M.IV.G.(1)(d)3.	Low-level waste must not be readily capable of detonation or of explosive decomposition or reaction at anticipated pressures and temperatures, or of explosive reaction with water. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable.	Category 1 – no impact, (V. Boyles)		
III.3.i.(6)	Waste containing amounts of radionuclides below regulatory concern, as defined by Federal regulations, may be disposed without regard to radioactivity content.	M.I.I.E.(15)	Release of Waste Containing Residual Radioactive Material Determination. Processes for determining and documenting that waste is suitable to be released and managed without regard to its radioactive content shall be in accordance with the criteria and meet the requirements in DOE 5400.5, Radiation Protection of the Public and the Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK)		

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III.3.i.(7)(a)	Disposal site selection criteria (based on planned waste confinement technology) shall be developed for establishing new low-level waste disposal sites.	M.IV.M.(1)	Site Evaluation. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 1. Located to accommodate the projected volume of waste to be received; 2. Located in a flood plain, a tectonically active area, or in the zone of fluctuation; and 3. Located where radionuclide migration pathways are predictable and erosion and surface water runoff can be controlled. (b) Proposed sites with environmental or geotechnical characteristics for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility. (c) Low-level waste disposal facilities shall be sited to achieve long-term stability and to minimize, to the extent practical, the need for active maintenance following final closure.	Category 1 – no impact		
III.3.i.(7)(b)	Disposal site selection shall be based on an evaluation of the prospective site in conjunction with planned waste confinement technology, and in accordance with the National Environmental Policy Act process.	M.IV.M.(1) M.I.1.D	Site Evaluation. Proposed locations for low-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	• 10 CFR Part 1021 impact TBD (HOTAREK) • O 451.1A on contract Category 1 – no impact		

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					PRE-JULY 2000	POST-JULY 2000
III.3.i.(7)(c)	The disposal site shall have hydrogeologic characteristics which, in conjunction with the planned waste confinement technology, will protect the groundwater resource.	M.IV.M.(1)	Site Evaluation. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 2. Located in a flood plain, a tectonically active area, or in the zone of fluctuation; and 3. Located where radionuclide migration pathways are predictable and erosion and surface water runoff can be controlled. (c) Low-level waste disposal facilities shall be sited to achieve long-term stability and to minimize, to the extent practical, the need for active maintenance following final closure.	Category 1 – no impact		
III.3.i.(7)(d)	The potential for natural hazards such as floods, erosion, tornadoes, earthquakes, and volcanoes shall be considered in site selection.	M.IV.M.(1)	Site Evaluation. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 2. Located in a flood plain, a tectonically active area, or in the zone of fluctuation; and	Category 1 - no impact		
			3. Located where radionuclide migration pathways are predictable and erosion and surface water runoff can be controlled. (b) Proposed sites with environmental or geotechnical characteristics for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility. (c) Low-level waste disposal facilities shall be sited to achieve long-term stability and to minimize, to the extent practical, the need for active maintenance following final closure.			

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III.3.i.(7)(e)	Site selection criteria shall address the impact on current and projected populations, land use resource development plans and nearby public facilities, accessibility to transportation routes and utilities, and the location of waste generation.	M.IV.M.(1)	Site Evaluation. Proposed locations for low-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is:	• 10 CFR Part 1021 impact TBD (HOTAREK) • O 451.1A on contract Category 1 – no impact		
		M.I.1.D	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	Category 1 – no impact		
III.3.i.(8)(a)	Design criteria shall be established prior to selection of new disposal facilities; new disposal sites, or both. These design criteria shall be based on analyses of physiographic, environmental, and hydrogeological data to assure that the policy and requirements of this Order can be met. The criteria shall be also based on assessments of projected waste volumes, waste characteristics, and facility and disposal site performance.	M.IV.M.(1)	Site Evaluation. Proposed locations for low-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 1. Located to accommodate the projected volume of waste to be received; (b) Proposed sites with environmental or geotechnical characteristics for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility. (c) Low-level waste disposal facilities shall be sited to achieve long-term stability and to minimize, to the extent practical, the need for active maintenance following final closure.	Category 1 – no impact		

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III.3.i.(8)(b)	Disposal units shall be designed consistent with disposal site hydrology, geology, and waste characteristics and in accordance with the National Environmental Policy Act process.	M.IV.M.(1)	Site Evaluation. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 1. Located to accommodate the projected volume of waste to be received; 2. Located in a flood plain, a tectonically active area, or in the zone of fluctuation; and 3. Located where radionuclide migration pathways are predictable and erosion and surface water runoff can be controlled.	• 10 CFR Part 1021 impact TBD (HOTAREK) • O 451.1A on contract Category 1 – no impact		
		M.I.I.D	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	Category 1 – no impact		
III.3.i.(9)(a)	Field organizations shall develop and implement operating procedures for low-level waste disposal facilities that protect the environment, health and safety of the public, and facility personnel; ensure the security of the facility; minimize the need for long-term control; and meet the requirements of the closure/post closure plan.	M.IV.P.(6)(a)	Operating procedures shall be developed and implemented for low-level waste disposal facilities that protect the public, workers, and the environment; ensure the security of the facility; minimize subsidence during and after waste emplacement; achieve long-term stability and minimize the need for long-term active maintenance; and meet the requirements of the closure/post-closure plan.	Category 1 – no impact (K. Burgard)		
III.3.i.(9)(b)	Permanent identification markers for disposal excavations and monitoring wells shall be emplaced.	M.IV.P.(6)(b)	Permanent identification markers for disposal excavations and monitoring wells shall be emplaced.	Category 1 – no impact		

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III.3.i.(9)(c)	Operating procedures shall include training for disposal facility operating personnel, emergency response plans, and a system of reporting unusual occurrences according to DOE 5000.3.	M.I.1.E.(19) M.I.1.E.(5) M.I.1.E.(6)	Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities. Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System. Environmental and Occurrence Reporting. Radioactive waste management facilities, operations, and activities shall meet the reporting requirements of DOE O 231.1, Environment, Safety, and Health Reporting, and DOE O 232.1, Occurrence Reporting and Processing of Operations Information.	• 151.1 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 231.1 on contract		
III.3.i.(9)(d)	Waste placement into disposal units should minimize voids between containers.	M.IV.P.(6)(c)	Low-level waste placement into disposal units shall minimize voids between waste containers. Voids within disposal units shall be filled to the extent practical. Uncontainerized bulk waste shall also be placed in a manner that minimizes voids and subsidence.	Category 1 – no impact (K. Burgard)		
III.3.i.(9)(e)	Operations are to be conducted so that active waste disposal operations will not have an adverse effect on filled disposal units.	M.IV.P.(6)(d)	Operations are to be conducted so that active waste disposal operations will not have an adverse effect on other disposal units.	Category 1 – no impact (K. Burgard)		
III.3.j.(1)	Field organizations shall develop site-specific comprehensive closure plans for new and existing operating low level waste disposal sites. The plan shall address closure of disposal sites within a 5-year period after each is filled and shall conform to the requirements of the National Environmental Policy Act process. Performance objectives for existing disposal sites shall be developed on a case-by-case basis as part of the National Environmental Policy Act process.	M.I.2.F.(8)	Closure Plans. Ensuring development, review, approval, and implementation of closure plans for radioactive waste management facilities. The closure plans shall meet the applicable requirements identified in the waste-type chapters of this Manual.	Category 1 – no impact: A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY2010. (P. McCarthy)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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III.3.j.(1) Cont.		M.IV.Q.(1)	Disposal Facility Closure Plans. A preliminary closure plan shall be developed and submitted to Headquarters for review with the performance assessment and composite analysis. The closure plan shall be updated following issuance of the disposal authorization statement to incorporate conditions specified in the disposal authorization statement. Closure plans shall:	Category 4: A Tank Farm Closure Plan and Performance Assessment are currently scheduled to support this requirement. A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY 2010. A Tank Farm Performance Assessment is within the baseline of the SST Retrieval Program under TBR 510.113, currently scheduled for FY09. The composite analysis for the Hanford Site is not the responsibility of LMHC, although through the Groundwater/Integration Project LMHC will support the analysis and will feed the results of our facility specific analysis into the site-wide assessment. This Hanford Site composite analysis will be submitted with the closure plan. An update to the closure plan following receipt of the disposal authorization is not currently planned. This will be added to the closure schedule during the next planning cycle.		$300K ($150K in FY15 and $150K in FY16 to incorporate disposal authorization requirements)
		M.IV.Q.(2)	Disposal Facility Closure. Closure of a disposal facility shall occur within a five-year period after it is filled to capacity, or the facility is otherwise determined to be no longer needed.	Category 1 – no impact: The schedule for closure of the tank farms is addressed as part of the Hanford Tri-Party Agreement, this will be included in the Closure Plan. A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10.		
			(a)Prior to facility closure, the final inventory of the low-level waste disposed in the facility shall be prepared and incorporated in the performance assessment and composite analysis which shall be updated to support the closure of the facility. [added by LMHC]	Category 4: The current schedule does not include updates to the performance assessment; this will be added to the schedule in FY00. Cost impact is expected to be minor compared to the overall cost for closure.		$3.45M ($150K every year from FY10-FY32)
			(b) A final closure plan shall be prepared based on the final inventory of waste disposed in the facility, the plan implemented, and the updated performance assessment and composite analysis prepared in support of the facility closure.	Category 4: The current schedule does not include updates to the Closure Plan and Performance Assessment, this will be added to the schedule in FY00. Cost impact is expected to be minor compare to the overall cost for closure.		COST IMPACT included in M.IV.Q.(2)(a) above

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III.3.j.(2)	During closure and post closure, residual radioactivity levels for surface soils shall comply with existing DOE decommissioning guidelines.	M.I.1.E.(9) M.IV.Q.(2)(c)	Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems, to allow reliable analysis of existing and potential hazards to the public and workers. Institutional control measures shall be integrated into land use and stewardship plans and programs, and shall continue until the facility can be released pursuant to DOE 5400.5, Radiation Protection of the Public and the Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK) • 4330.4B on contract Compliance analysis previously provided. N/A: Future land use and stewardship plans are not within the scope of the River Protection Project; however, both the closure plan and performance assessment will assume 100 years of institutional control per O 435.1 M.IV.P. (2) (h). (P. McCarthy)		
III.3.j.(3)	Corrective measures shall be applied to new disposal sites or individual disposal units if conditions occur or are forecasted that could jeopardize attainment of the performance objectives of this Order.	M.I.2.F.(20) M.IV.F.(l)	Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment. Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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III.3.j.(4)	Inactive disposal facilities, disposal sites, and disposal units shall be managed in conformance with the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, and the Superfund Amendments and Reauthorization Act, or, if mixed waste is involved, may be included in permit applications for operation of contiguous disposal facilities.	M.1.1.D M.1.2.F.(5)	Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions. Environmental Restoration, Decommissioning, and Other Cleanup Waste. Ensuring the management and disposal of radioactive waste resulting from environmental restoration activities, including decommissioning, meet the substantive requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. Environmental restoration activities using the CERCLA process (in accordance with Executive Order 12580) may demonstrate compliance with the substantive requirements of DOE O 435.1, Radioactive Waste Management, and this Manual (including the Performance Assessment and performance objectives, as well as the Composite Analysis) through the CERCLA process. However, compliance with all substantive requirements of DOE O 435.1 not met through the CERCLA process must be demonstrated. Environmental restoration activities which will result in the off-site management and disposal of radioactive waste must meet the applicable requirements of DOE O 435.1, Radioactive Waste Management, and this Manual for the management and disposal of those off-site wastes. Field Elements performing environmental restoration activities involving development and management of radioactive waste disposal facilities under the CERCLA process shall: (a) Submit certification to the Deputy Assistant Secretary for Environmental Restoration that compliance with the substantive requirements of DOE O 435.1 have been met through application of the CERCLA process; and (b) Submit the decision document, such as the Record of Decision, or any other document that serves as the authorization to dispose, to the Deputy Assistant Secretary for Environmental Restoration for approval.	• O 451.1A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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III.3.j.(5)	Closure plans for new and existing operating low-level waste disposal facilities shall be reviewed and approved by the appropriate field organization.	M.I.2.F.(8)	Closure Plans. Ensuring development, review, approval, and implementation of closure plans for radioactive waste management facilities. The closure plans shall meet the applicable requirements identified in the waste-type chapters of this Manual.	Category 1 – no impact: A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBD 510.111, currently scheduled for FY 2010. (P. McCarthy)		
III.3.j.(6)	Termination of monitoring and maintenance activity at closed facilities or sites shall be based on an analysis of site performance at the end of the institutional control period.	M.IV.Q.(2)(c)	Institutional control measures shall be integrated into land use and stewardship plans and programs, and shall continue until the facility can be released pursuant to DOE 5400.5, Radiation Protection of the Public and the Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) N/A: Future land use and stewardship plans are not within, however, both the closure plan and performance assessment will assume 100 years of institutional control per O 435.1 M.IV.P. (2) (h); per P. McCarthy		
III.3.k.(1)	Each operational or non-operational low-level waste treatment, storage, and disposal facility shall be monitored by an environmental monitoring program that conforms with DOE 5484.1 and, at a minimum, meet the requirements of paragraph 3K(2) through 3K(4).	M.I.1.E.(7)	Environmental Monitoring. Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, General Environmental Protection Program; and DOE 5400.5, Radiation Protection of the Public and Environment.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5400.1 on contract		
III.3.k.(2)	The environmental monitoring program shall be designed to measure: (a) operational effluent releases; (b) migration of radionuclides; (c) disposal unit subsidence; and (d) changes in disposal facility and disposal site parameters which may affect long-term site performance.	M.IV.R.(3)(b)	The environmental monitoring program shall be designed to include measuring and evaluating releases, migration of radionuclides, disposal unit subsidence, and changes in disposal facility and disposal site parameters which may affect long-term performance.	Category 1 – no impact: A tank farm closure plan and performance assessment are currently scheduled to support this requirement. (P. McCarthy)		
III.3.k.(3)	Based on the characteristics of the facility being monitored, the environmental monitoring program may include, but not necessarily be limited to, monitoring surface soil, air, surface water, and, in the subsurface, soil and water, both in the saturated and the unsaturated zones.	M.IV.R.(3)(a)	The site-specific performance assessment and composite analysis shall be used to determine the media, locations, radionuclides, and other substances to be monitored.	Category 1 – no impact: A tank farm closure plan and performance assessment are currently scheduled to support this requirement. (P. McCarthy)		
III.3.k.(4)	The monitoring program shall be capable of detecting changing trends in performance sufficiently in advance to allow application of any necessary corrective action prior to exceeding performance objectives. The monitoring program shall be able to ascertain whether or not effluents from each treatment, storage, or disposal facility or disposal site meet the requirements of applicable EH Orders.	M.IV.R.(3) M.I.1.E.(7)	The environmental monitoring programs shall be capable of detecting changing trends in performance to allow application of any necessary corrective action prior to exceeding the performance objectives in this Chapter. Environmental Monitoring. Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, General Environmental Protection Program; and DOE 5400.5, Radiation Protection of the Public and Environment.	Category 1 – no impact: A tank farm closure plan and performance assessment are currently scheduled to support this requirement. • 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) • 5400.1 on contract		
III.3.l	Quality Assurance. Consistent with DOE 5700. 6B, the low-level waste operational and disposal l practices shall be conducted in accordance with applicable requirements of American National Standards Institute/American Society of Mechanical Engineers Nuclear Quality Assurance-1 (See Attachment 1, page 5, paragraph 48) and other appropriate national consensus standards.	M.I.1.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements and Responsibilities, and DOE O 414.1, Quality Assurance, as applicable.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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III.3.m	(1) Each field organization shall develop and maintain a record keeping system that records the following: a historical record of waste generated, treated, stored, shipped, disposed of, or both, at the facilities under its cognizance. The data maintained shall include all data necessary to show that the waste was properly classified, treated, stored, shipped, and/or disposed of. The data maintained in the system shall be based on the data recorded on waste manifests. (2) Waste Manifest. Records shall be kept and accompany each waste package from generator through final disposal. The manifest shall contain data necessary to document the proper classification, and assist in determining proper treatment, storage, and disposal of the waste. Waste manifests will be kept as permanent records. At a minimum, the following data will be included: (a) Waste physical and chemical characteristics, (b) Quantity of each major radionuclide present, (c) Weight of the waste (total of waste and any solidification or absorbent media), (d) Volume of the waste (total of waste and any solidification or absorbent media), and (e) Other data necessary to demonstrate compliance with waste acceptance criteria.	M.I.1.E.(14) M.IV.N.(4)(b) M.IV.K	Records Management. Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, Information Management Program, and DOE O 414.1, Quality Assurance. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste. Characterization information for all low-level waste in storage shall be maintained as a record in accordance with the requirements for Records Management in Chapter I of this Manual. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of low-level waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. UNKNOWN WHERE THE FOLLOWING CAME FROM---IS NOT ASSOCIATED WITH M.IV.K OR M. IV.I(2)] (2) DATA. LOW-LEVEL WASTE CHARACTERIZATION AND PACKAGING DATA SHALL BE DOCUMENTED FOR EACH TRANSFER.			

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III.3.m (Cont.)		M.IV.1.(2)	Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides; (e) Characterization date; (f) Generating source; and (g) Any other information which may be needed to prepare and maintain the disposal facility performance assessment, or demonstrate compliance with applicable performance objectives.			
IV.1	PURPOSE. To establish policies and guidelines for managing DOE waste containing byproduct material, as defined by section 11e(2) of the Atomic Energy Act of 1954, as amended, and naturally Occurring and Accelerator Produced Radioactive Material.	O.1 M.1	OBJECTIVE. The objective of this Order is to ensure that all Department of Energy (DOE) radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. PURPOSE. This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O 435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment.			
IV.2	POLICY. DOE waste containing naturally occurring and accelerator produced radioactive material or byproduct material as defined by section 11e (2) of the Atomic Energy Act, as amended, or similarly contaminated residues derived from DOE remedial actions, shall be stored, stabilized in-place, and/or disposed of consistent with the requirements of the residual radioactive material guidelines contained in 40 CFR 192. Small volumes of DOE waste containing 11e (2) byproduct material or naturally occurring and accelerator produced radioactive material may be managed as low-level waste in accordance with the requirements of Chapter III of this Order. If the waste is classified as mixed waste, management also must be in compliance with the requirements of the Resource Conservation and Recovery Act.	M.IV.B	Management of Specific Wastes. The following provide for management of specific wastes as low-level waste in accordance with the requirements in this Chapter: (3) Accelerator-Produced Waste. Radioactive waste produced as a result of operations of DOE accelerators is low-level waste and shall be managed in accordance with DOE O 435.1, Radioactive Waste Management, and this Manual, and all applicable Federal or State requirements. (4) 11e.(2) and Naturally Occurring Radioactive Material. Small quantities of 11e.(2) byproduct material and naturally occurring radioactive material may be managed as low-level waste provided they can be managed to meet the requirements for low-level waste disposal in Section IV.P.			

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		M.I.1.E.(10)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.			
IV.3.a.(1)	Waste covered under this chapter in quantities too large for acceptance at DOE low-level waste disposal sites shall be managed according to the requirements of 40 CFR 192, and disposed of at specially designated DOE sites or tailing disposal sites established under the Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604). These disposal sites should be identified and developed as needed in support of DOE remedial actions, and will normally be located in the State in which the wastes are generated.	M.IV.A	Definition of Low-Level Waste. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material.			
IV.3.a.(2)	With the approval of the appropriate field organization, small volumes of 11 (e) byproduct material and naturally occurring and accelerator produced radioactive material waste may be disposed of at DOE low-level waste sites in accordance with the requirements of Chapter III of this Order.	M.IV.B.	Accelerator-Produced Waste. Radioactive waste produced as a result of operations of DOE accelerators is low-level waste and shall be managed in accordance with DOE O 435.1, Radioactive Waste Management, and this Manual, and all applicable Federal or State requirements. 11e.(2) and Naturally Occurring Radioactive Material. Small quantities of 11e.(2) byproduct material and naturally occurring radioactive material may be managed as low-level waste provided they can be managed to meet the requirements for low-level waste disposal in Section IV.P.			
IV.3.a.(3)	All DOE waste containing: (a) Naturally occurring and accelerator produced radioactive material mixed with the Resource Conservation and Recovery Act hazardous chemicals shall be managed as hazardous waste under the Resource Conservation and Recovery Act. (b) Byproduct 11e(2) (or a combination of 11e(2) byproduct and naturally occurring and accelerator produced radioactive material) mixed with the Resource Conservation and Recovery Act hazardous chemicals, shall be managed consistent with both the Resource Conservation and Recovery Act and 40 CFR Part 192.	M.I.1.E.(10)	Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
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		M.IV.B	Management of Specific Wastes. The following provide for management of specific wastes as low-level waste in accordance with the requirements in this Chapter: (1) Mixed Low-Level Waste. Low-level waste determined to contain both source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual. (2) TSCA-Regulated Waste. Low-level waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual. (3) Accelerator-Produced Waste. Radioactive waste produced as a result of operations of DOE accelerators is low-level waste and shall be managed in accordance with DOE O 435.1, Radioactive Waste Management, and this Manual, and all applicable Federal or State requirements. (4) 11e.(2) and Naturally Occurring Radioactive Material. Small quantities of 11e.(2) byproduct material and naturally occurring radioactive material may be managed as low-level waste provided they can be managed to meet the requirements for low-level waste disposal in Section IV.P.			
IV.3.b	Quality Assurance. Consistent with DOE 5700.6B, waste management practices shall be conducted in accordance with applicable requirements of American National Standards Institute/American Society of Mechanical Engineers Nuclear Quality Assurance-1 (reference 48) and other appropriate national consensus standards.	M.I.1.E.(12)	Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.			

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	The remaining DOE O and M 435.1-1 requirements have no predecessor requirements in DOE 5820.2A	M.IV.D.	Radioactive Waste Management Basis. Low-level waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis: (1) Generators. The waste certification program. (2) Treatment Facilities. The waste acceptance requirements and the waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program. (4) Disposal Facilities. The performance assessment, composite analysis, disposal authorization statement, closure plan, waste acceptance requirements, and monitoring plan.	(1) Category 4, as previously noted (2) N/A since RPP does not treat LLW (3) N/A since RPP does not store LLW (4) Category 1 – no impact		
		M.IV.E.	Contingency Actions. (1) Contingency Storage. For off-normal or emergency situations involving high activity or high hazard liquid low-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of liquid contained in any one storage tank or treatment facility. Tanks or other facilities that are designated low-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of high activity or high hazard liquid low-level waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	N/A since RPP does not store LLW		
		M.IV.F.(2)	Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.			
		M.IV.G.	Waste Acceptance. (1)(e) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved.	Category 1 – no impact, (V. Boyles)		

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		M.IV.H.(2)	Waste With No Identified Path to Disposal. Low-level waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste.	CATEGORY 1 – NO IMPACT: Currently in full compliance or not applicable to current tasks.		
		M.IV.J.(3)	Maintaining Certification. Low-level waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	Category 1 – no impact (V. Boyles)		
		M.IV.L.(1)	Packaging. If containers are used: (b) When waste is packaged, vents or other measures shall be provided if the potential exists for pressurizing or generating flammable or explosive concentrations of gases within the waste container.	Category 1 – no impact		
		M.IV.M.(2)	Low-Level Waste Treatment and Storage Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (a) Confinement. Low-level waste systems and components shall be designed to maintain waste confinement. (b) Ventilation. 1. Design of low-level waste treatment and storage facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	N/A since RPP does not treat or store LLW		

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			(c) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing low-level waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described. (d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of low-level waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems. (e) Monitoring. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of low-level waste treatment and storage facilities to provide rapid identification of failed confinement and/or other abnormal conditions.			
		M.IV.M.(3)	Low-Level Waste Disposal Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (a) Confinement. Low-level waste systems and components shall be designed to maintain waste confinement. (b) Ventilation. 1. Design of low-level waste disposal facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation. (c) Stability. Low-level waste disposal facilities shall be designed to achieve long-term stability and to minimize to the extent practical, the need for active maintenance following final closure. (d) Control of Water. Low-level waste disposal facilities shall be designed to minimizeto the extent practical, the contact of waste with water during and after disposal.	Category 1 – no impact (K. Burgard)		

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		M.IV.N.	Storage and Staging. (1) Storage Prohibitions. Low-level waste in storage shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable. (2) Storage Limit. Low-level waste that has an identified path to disposal shall not be stored longer than one year prior to disposal, except for storage for decay, or as otherwise authorized by the Field Element Manager. (3) Storage Integrity. Low-level waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure. (4) Waste Characterization for Storage.	Category 4: LMHC only stages (does not store) low-level waste once the material/equipment is packaged for disposal with an inventory sheet is attached. Low-level waste must leave LMHC no later than 90 days after generation; therefore, storage does not apply. To ensure compliance, an initial facility walkdown is to be performed followed by a procedure change to TO-100-052, Waste Handling Procedure to include requirements. Training will then be developed/administered to waste handling personnel. (R Tucker)	Costs previously noted	Costs previously noted
			(a) Low-level waste that does not have an identified path to disposal shall be characterized as necessary to meet the data quality objectives and minimum characterization requirements of this Chapter, to ensure safe storage, and to facilitate disposal. (5) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of low-level waste to ensure container integrity is not compromised. (6) Storage Management. Low-level waste storage shall be managed to identify and segregate low-level waste from mixed low-level waste. (7) Staging. Staging of low-level waste shall be for the purpose of the accumulation of such quantities of waste as necessary to facilitate transportation, treatment, and disposal. Staging longer than 90 days shall meet the requirements for storage above and in Chapter I of this Manual.		$128K	

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			Performance Assessment. (a) Analyses performed to demonstrate compliance with the performance objectives in this Chapter, and to establish limits on concentrations of radionuclides for disposal based on the performance measures for inadvertent intruders in this Chapter shall be based on reasonable activities in the critical group of exposed individuals. Unless otherwise specified, the assumption of average living habits and exposure conditions in representative critical groups of individuals projected to receive the highest doses is appropriate. The likelihood of inadvertent intruder scenarios may be considered in interpreting the results of the analyses and establishing radionuclide concentrations, if adequate justification is provided. (a) The point of compliance shall correspond to the point of highest projected dose or concentration beyond a 100 meter buffer zone surrounding the disposed waste. A larger or smaller buffer zone may be used if adequate justification is provided. (c) Performance assessments shall address reasonably foreseeable natural processes that might disrupt barriers against release and transport of radioactive materials.			
			(d) Performance assessments shall use DOE-approved dose coefficients (dose conversion factors) for internal and external exposure of reference adults. (e) The performance assessment shall include a sensitivity/uncertainty analysis.	Category 1 – no impact (K. Burgard)		
		M.IV.P.(3)	Composite Analysis. For disposal facilities which received waste after September 26, 1988, a site-specific radiological composite analysis shall be prepared and maintained that accounts for all sources of radioactive material that may be left at the DOE site and may interact with the low-level waste disposal facility, contributing to the dose projected to a hypothetical member of the public from the existing or future disposal facilities. Performance measures shall be consistent with DOE requirements for protection of the public and environment and evaluated for a 1,000 year period following disposal facility closure. The composite analysis results shall be used for planning, radiation protection activities, and future use commitments to minimize the likelihood that current low-level waste disposal activities will result in the need for future corrective or remedial actions to adequately protect the public and the environment.	Category 1 – no impact (K. Burgard)		

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		M.IV.P.(4)	Performance Assessment and Composite Analysis Maintenance. (b) A determination of the continued adequacy of the performance assessment and composite analysis shall be made on an annual basis, and shall consider the results of data collection and analysis from research, field studies, and monitoring. (c) Annual summaries of low-level waste disposal operations shall be prepared with respect to the conclusions and recommendations of the performance assessment and composite analysis and a determination of the need to revise the performance assessment or composite analysis.	Category 1 – no impact (K. Burgard)		
		M.IV.P.(5)	Disposal Authorization. A disposal authorization statement shall be obtained prior to construction of a new low-level waste disposal facility. Field Elements with existing low-level waste disposal facilities shall obtain a disposal authorization statement in accordance with the schedule in the Complex-Wide Low-Level Waste Management Program Plan. The disposal authorization statement shall be issued based on a review of the facility's performance assessment, composite analysis, performance assessment and composite analysis maintenance, preliminary closure plan, and preliminary monitoring plan. The disposal authorization statement shall specify the limits and conditions on construction, design, operations, and closure of the low-level waste facility based on these reviews. A disposal authorization statement is a part of the radioactive waste management basis for a disposal facility. Failure to obtain a disposal authorization statement by the implementation date of this Order shall result in shutdown of the disposal facility.	Category 1 – no impact (K. Burgard)		
		M.IV.P.(6)	Disposal Facility Operations. (e) Operations shall include a process for tracking and documenting low-level waste placement in the facility by generator source.	Category 1 – no impact (K. Burgard)		
		M.IV.P.(7)	Alternate Requirements for Low-Level Waste Disposal Facility Design and Operation. Requirements other than those set forth in this Section for the design and operation of a low-level waste disposal facility may be approved on a specific basis if a reasonable expectation is demonstrated that the disposal performance objectives will be met.	Category 1 – no impact (K. Burgard)		

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		M.IV.Q.(1)	Disposal Facility Closure Plans. Closure plans shall: (a) Be updated as required during the operational life of the facility. (b) Include a description of how the disposal facility will be closed to achieve long-term stability and minimize the need for active maintenance following closure and to ensure compliance with the requirements of DOE 5400.5, Radiation Protection of the Public and the Environment. (c) Include the total expected inventory of wastes to be disposed of at the facility over the operational life of the facility.	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK) Category 4: The current schedule does not include updates during the closure process, this will be added to the schedule in FY 2000. Cost impact (shown previously) is expected to be minor compare to the overall cost for closure. Category 1 – no impact: This will be included in the Closure Plan. A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10. Category 1 – no impact: This will be included in the Closure Plan. A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10.		
		M.IV.Q.(2)	Disposal Facility Closure. (d) The location and use of the facility shall be filed with the local authorities responsible for land use and zoning.	Catagory 1 – no impact: This will be included in the Closure Plan. A Tank Farm Closure Plan is within the baseline of the SST Retrieval Program under TBR 510.111, currently scheduled for FY10.		
		M.IV.R.	Monitoring. (1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed. (2) Liquid Waste Storage Facilities. For facilities storing liquid low-level waste, the following shall also be monitored: liquid level and/or waste volume, and significant waste chemistry parameters. (3)Disposal Facilities. A preliminary monitoring plan for a low-level waste disposal facility shall be prepared and submitted to Headquarters for review with the performance assessment and composite analysis. The monitoring plan shall be updated within one year following issuance of the disposal authorization statement to incorporate and implement conditions specified in the disposal authorization statement.	(1) Category 1 – no impact (2) N/A since RPP does not store LLW (3) Category 1 – no impact		
DEFINITIONS – SECTION BREAK						
1.	Below Regulatory Concern. A definable amount of low-level waste that can be deregulated with minimal risk to the public.	None	Term not used in DOE O 435.1 or DOE M 435.1-1.			

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2.	Buffer Zone. The smallest region beyond the disposal unit that is required as controlled space for monitoring and for taking mitigative measures, as may be required.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary. Term discussed further in guidance			
3.	Byproduct Material. (Attachment 1, pages 4 and 5, paragraphs 38 and 49.) a. Any radioactive material (except special nuclear material) yielded in, or made radioactive by, exposure to the radiation incident or to the process of producing or utilizing special nuclear material. For purposes of determining the applicability of the Resource Conservation and Recovery Act to any radioactive waste, the term "any radioactive material" refers only to the actual radionuclides dispersed or suspended in the waste substance. The nonradioactive hazardous waste component of the waste substance will be subject to regulation under the Resource Conservation and Recovery Act. b. The tailings or waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. Ore bodies depleted by uranium solution extraction operations and which remain underground do not constitute "byproduct material."	2.	BYPRODUCT MATERIAL. (1) Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material, and (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content. [Source: Atomic Energy Act of 1954, as amended, section 11(e)]			
4.	Certified Waste. Waste that has been confirmed to comply with disposal site waste acceptance criteria (e.g., the Waste Isolation Pilot Plant-Waste Acceptance Criteria for transuranic waste) under an approved certification program.	None	Term not used in DOE O 435.1 or DOE M 435.1-1.			
5.	Closure. a. Operational Closure. Those actions that are taken upon completion of operations to prepare the disposal site or disposal unit for custodial care, (e.g., addition of cover, grading, drainage, erosion control). b. Final Site Closure: Those actions that are taken as part of a formal decommissioning or remedial action plan, the purpose of which is to achieve long-term stability of the disposal site and to eliminate to the extent practical the need for active maintenance so that only surveillance, monitoring, and minor custodial care are required.	4.	CLOSURE. Deactivation and stabilization of a radioactive waste facility intended for long-term confinement of waste. [No other source of definition identified]			
6.	Contact-Handled Transuranic Waste. Packaged transuranic waste whose external surface dose rate does not exceed 200 mrem per hour.	None	Acceptable definition found in legislation; definition for "contact-handled waste" found in the DOE Glossary.			
7.	Decommissioning. Actions taken to reduce the potential health and safety impacts of DOE contaminated facilities, including activities to stabilize, reduce, or remove radioactive materials or to demolish the facilities.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
8.	Decontamination. The removal of radioactive contamination from facilities, equipment, or soils by washing, heating, chemical or electrocronical action, mechanical cleaning, or other techniques.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			

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9.	Department of Energy Waste. Radioactive waste generated by activities of the Department (or its predecessors) waste for which the Department is responsible under law or contract, or other waste for which the Department is responsible. Such waste may be referred to as DOE waste.		Definition found at DOE O 435.1, 3.b.			
10.	Disposal. Emplacement of waste in a manner that assures isolation from the biosphere for the foreseeable future with no intent of retrieval and that requires deliberate action to regain access to the waste.	12.	DISPOSAL. Emplacement of waste in a manner that ensures protection of the public, workers, and the environment with no intent of retrieval and that requires deliberate action to regain access to the waste. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
11.	Disposal Facility. The land, structures, and equipment used for the disposal of waste.	37.	RADIOACTIVE WASTE MANAGEMENT FACILITY/OPERATIONS/ACTIVITIES. All land, structures, other appurtenances, and improvements on the land which generate, treat, store, or dispose of radioactive waste, and the operations and activities associated therewith. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
12.	Disposal Site. That portion of a disposal facility which is used to dispose of waste. For low-level waste, it consists of disposal units and a buffer zone.	None	Term not used in DOE O 435.1 or M 435.1-1.			
13.	Disposal Unit. A discrete portion (e.g., a pit, trench, tumulus, vault, or bunker) of the disposal site into which waste is placed for disposal.	None	Term not used in DOE O 435.1 or M 435.1-1.			
14.	DOE Reservation. A location consisting of a DOE-controlled land area including DOE-owned facilities (e.g., the Oak Ridge Reservation) in some cases referred to as a Site, such as the Nevada Test Site, the Hanford Site; or as a Laboratory, such as the Idaho National Engineering Laboratory; or as a Plant, such as Rocky Flats Plant; or as a Center, such as the Feed Materials Production Center.	None	Term not used in DOE O 435.1 or M 435.1-1.			
15.	Free Liquids. Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary. Term discussed further in guidance.			
16.	Engineered Barrier. A man-made structure or device that is intended to improve the performance of a disposal facility.	None	Term not used in DOE O 435.1 or DOE M 435.1-1.			
17.	Hazardous Wastes. Those wastes that are designated hazardous by EPA regulations (40 CFR Part 261).	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
18.	High-Level Waste. The highly radioactive waste material that results from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid waste derived from the liquid, that contains a combination of transuranic waste and fission products in concentrations requiring permanent isolation.	22.	HIGH-LEVEL WASTE. High-level waste is the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation. [Adapted from: Nuclear Waste Policy Act of 1982, as amended]			
19.	Institutional Control. A period of time, assumed to be about 100 years, during which human institutions continue to control waste management facilities.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary. Term discussed further in guidance.			

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20.	Low-Level Waste. Waste that contains radioactivity and is not classified as high-level waste, transuranic waste, or spent nuclear fuel or 11e.(2) byproduct material as defined by this Order. Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, may be classified as low-level waste, provided the concentration of transuranic is less than 100 nCi/g.	25.	LOW-LEVEL WASTE. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material. [Adapted from: Nuclear Waste Policy Act of 1982, as amended]			
21.	Monitoring. The making of observations and measurements to provide data to evaluate the performance of a waste management operation.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
22.	Mixed Waste. Waste containing both radioactive and hazardous components as defined by the Atomic Energy Act and the Resource Conservation and Recovery Act, respectively.	27.	MIXED WASTE. Waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component subject to the Resource Conservation and Recovery Act. [Adapted from: Federal Facility Compliance Act of 1992]			
23.	Natural Barrier. The physical, chemical, and hydrological characteristics of the geological environment at the disposal site that, individually and collectively, act to retard or preclude waste migration.	None	Term not used in DOE O 435.1 or M 435.1-1.			
24.	Naturally Occurring and Accelerator Produced Radioactive Material. Any radioactive material that can be considered naturally occurring and is not source, special nuclear, or byproduct material or that is produced in a charged particle accelerator.	28.	NATURALLY OCCURRING RADIOACTIVE MATERIAL (NORM). Naturally occurring materials not regulated under the Atomic Energy Act whose composition, radionuclide concentrations, availability, or proximity to man have been increased by or as a result of human practices. NORM does not include the natural radioactivity of rocks or soils, or background radiation. [Adapted from: January 1997 Draft Part N, Regulation and Licensing of Naturally Occurring Radioactive Material, Conference of Radiation Control Program Directors, Inc.]			
25.	Near Surface Disposal. Disposal in the upper 30 meters of the earth's surface, (e.g. shallow land burial).	29.	NEAR SURFACE DISPOSAL. Disposal of radioactive waste on or near the earth's surface. The term encompasses a wide range of methods, including disposal in earthen trenches several meters deep, disposal in engineered structures constructed on or below the surface, and disposal in structures or rock caverns tens of meters below the earth's surface. Near surface disposal does not include disposal in a deep geologic repository. [Adapted from: IAEA Safety Standard No. 111-S-3]			
26.	Performance Assessment. A systematic analysis of the potential risks posed by waste management systems to the public and environment, and a comparison of those risks to established performance objectives.	32.	PERFORMANCE ASSESSMENT. An analysis of a radioactive waste disposal facility conducted to demonstrate there is a reasonable expectation that performance objectives established for the long-term protection of the public and the environment will not be exceeded following closure of the facility. [Adapted from: DOE 5820.2A]			

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27.	Pyrophoric Material. A material which under normal conditions is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation, handling or disposal hazard.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary. Term discussed further in guidance.			
28.	Quality Assurance. All those planned and systematic actions necessary to provide adequate confidence that a facility, structure, system, or component will perform satisfactorily and safely in service. Quality assurance includes quality control, which comprises all those actions necessary to control and verify the features and characteristics of a material, process, product, or service to specified requirements.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
29.	Radioactive Waste. Solid, liquid, or gaseous material that contains radionuclides regulated under the Atomic Energy Act of 1954, as amended and of negligible economic value considering costs of recovery.	35.	RADIOACTIVE WASTE. Any garbage, refuse, sludges, and other discarded material, including solid, liquid, semisolid, or contained gaseous material that must be managed for its radioactive content. [Adapted from: 40 CFR Part 240]			
30.	Remedial Action. Activities conducted at DOE facilities to reduce potential risks to people and/or harm to the environment from radioactive and/or hazardous substance contamination.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
31.	Remote-Handled Transuranic Waste. Packaged transuranic waste whose external surface dose rate exceeds 200 mrem per hour. Test specimens of fissionable material irradiated for research and development purposes only and not for the production of power or plutonium may be classified as remote-handled transuranic waste.	None	Acceptable definition found in legislation and the DOE glossary.			
32.	Repository. A facility for the permanent deep geologic disposal of High Level or Transuranic Waste.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
33.	Spent Nuclear Fuel. Fuel that has been withdrawn from a nuclear reactor following irradiation, but that has not been reprocessed to remove its constituent elements.	44.	SPENT NUCLEAR FUEL. Fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing. Test specimens of fissionable material irradiated for research and development only, and not production of power or plutonium, may be classified as waste, and managed in accordance with the requirements of this Order when it is technically infeasible, cost prohibitive, or would increase worker exposure to separate the remaining test specimens from other contaminated material. [Adapted from: DOE 5820.2A]			
34.	Storage. Retrievable retention of waste pending disposal.	46.	STORAGE. The holding of radioactive waste for a temporary period, at the end of which the waste is treated, disposed of, or stored elsewhere. [Adapted from: 40 CFR Part 260]			

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					PRE-JULY 2000	POST-JULY 2000
35.	Storage Facility. Land area, structures, and equipment used for the storage of waste.	37.	RADIOACTIVE WASTE MANAGEMENT FACILITY/OPERATIONS/ACTIVITIES. All land, structures, other appurtenances, and improvements on the land which generate, treat, store, or dispose of radioactive waste, and the operations and activities associated therewith. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
36.	Storage Unit. A discrete part of the storage facility in which waste is stored.	None	Term not used in DOE O 435.1 or DOE M 435.1-1.			
37.	Surplus Facility. Any facility or site (including equipment) that has no identified or planned programmatic use and is contaminated with radioactivity to levels that require controlled access.	None	Term not used in DOE O 435.1 or DOE M 435.1-1.			
38.	Transuranium Radionuclide. Any radionuclide having an atomic number greater than 92.	None	Term not used in DOE O 435.1 or DOE M 435.1-1. Term discussed further in guidance.			
39.	Transuranic Waste. Without regard to source or form, waste that is contaminated with alpha-emitting transuranium radionuclides with half-lives greater than 20 years and concentrations greater than 100 nCi/g at the time of assay. Heads of Field Elements can determine that other alpha contaminated wastes, peculiar to a specific site, must be managed as transuranic waste.	49.	TRANSURANIC WASTE. Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for: (1) high-level radioactive waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or (3) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61. [Source: WIPP Land Withdrawal Act of 1992, as amended]			
40.	Treatment. Any method, technique, or process designed to change the physical or chemical character of waste to render it less hazardous, safer to transport, store or dispose of, or reduced in volume.	50.	TREATMENT. Any method, technique, or process designed to change the physical or chemical character of waste to render it: less hazardous; safer to transport, store, or dispose of; or reduce its volume. [Source: DOE 5820.2A]	• 5820.2A on contract		
41.	Treatment Facility. The specific area of land, structures, and equipment dedicated to waste treatment and related activities.	37.	RADIOACTIVE WASTE MANAGEMENT FACILITY/OPERATIONS/ACTIVITIES. All land, structures, other appurtenances, and improvements on the land which generate, treat, store, or dispose of radioactive waste, and the operations and activities associated therewith. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
42.	Waste Container. A receptacle for waste, including any liner or shielding material that is intended to accompany the waste in disposal.	55.	WASTE CONTAINER. A receptacle for waste, including any liner, shielding, or material that is intended to accompany the waste in disposal. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
43.	Waste Management. The planning, coordination, and direction of those functions related to generation, handling, treatment, storage, transportation, and disposal of waste, as well as associated surveillance and maintenance activities.	56.	WASTE MANAGEMENT. The planning, coordination, and direction of those functions related to generation, handling, treatment, storage, transportation, and disposal of waste, as well as associated surveillance and maintenance activities. [Source: DOE 5820.2A]	• 5820.2A on contract		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
44.	Waste Package. The waste, waste container, and any absorbent that are intended for disposal as a unit. In the case of surface contaminated, damaged, leaking, or breached waste packages, any overpack shall be considered the waste container, and the original container shall be considered part of the waste.	None	Acceptable definition found in legislation, regulation, other DOE Directive, or in the DOE Glossary.			
	The remaining DOE M 435.1-1 definitions had no predecessor definition in DOE 5820.2A.	1.	AUTHORIZATION BASIS. Those aspects of the facility design basis and operational requirements relied upon by DOE to authorize operation. They are considered to be important to the safety of the facility operations. The authorization basis is described in documents such as the facility Safety Analysis Report and other safety analysis; Hazard Classification Documents, Technical Safety Requirements, DOE-issued safety evaluation reports, and facility-specific commitments made in order to comply with DOE Orders or policies. [Adapted from: DOE Glossary, DOE 5480.21 and DOE 5480.23]	• 5480.23 on contract with change 1 – impact TBD (HOTAREK)		
		3.	CANISTERED WASTE FORM. High-level waste form in a sealed canister. [Source: EM-WAPS, DOE/EM-0093]			
		5.	COMPOSITE ANALYSIS. An analysis that accounts for all sources of radioactive material that may contribute to the long-term dose projected to a hypothetical member of the public from an active or planned low-level waste disposal facility. The analysis is a planning tool intended to provide a reasonable expectation that current low-level waste disposal activities will not result in the need for future corrective or remedial actions to ensure protection of the public and the environment. [Adapted from: Revised Interim DOE Policy on Management Direction and Oversight of Low-Level Radioactive Waste Management Disposal]			
		6.	CONFINEMENT. The control or retention of radioactive materials within a designated boundary. Primary confinements are process enclosures and other spaces normally containing radioactive material. Secondary confinement surrounds one or more primary confinement systems. [Adapted from: DOE 6430.1A]	• 6430.1A on contract		
		7.	CONTAINER. See WASTE CONTAINER.			
		8.	DEACTIVATED HIGH-LEVEL WASTE FACILITY. A high-level waste facility that has been put into a stable condition through the removal of readily retrievable hazardous and radioactive materials to protect the worker, public health and safety, and the environment, thereby limiting the long-term cost of surveillance and maintenance. A facility in a deactivated status has not had all necessary decontamination performed, e.g., removal of contamination remaining in fixed structures and equipment after deactivation. [Adapted from: DOE O 430.1A]	• O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		9.	DEFENSE-IN-DEPTH. The practice of using physical systems and administrative systems in a structure of mutual reenforcement to avoid exposure of the public, the workforce, and the environment to nuclear radiation and to radioactive materials. [Source: DNFSB/TECH-6]			
		10.	DEPARTMENTAL ELEMENTS. First-tier organizations at Headquarters and in the Field. First-tier at Headquarters is the Secretary, Deputy Secretary, Under Secretary, and Secretarial Officers (Assistant Secretaries and Staff Office Directors). First-tier in the Field is Managers of the eight Operations Offices, Managers of the three Field Offices, and the Administrators of the Power Marketing Administrations. Headquarters and Field Elements are described as follows: (1) Headquarters Elements are DOE organizations located in the Washington, DC, Metropolitan Area; and (2) Field Elements is a general term for all DOE sites (excluding individual duty stations) located outside of the Washington, DC, Metropolitan Area. [Source: DOE Glossary]			
		11.	DESIGN BASIS. Information that identifies the specific functions to be performed by a structure, system, or component of a facility, and the specific values or range of values chosen for controlling parameters as reference bounds of design. These values may be (1) restraints derived from generally accepted "state of the art" practices for achieving functional goals, or (2) requirements derived from analyses (based on calculations and/or experiments) of the effects of a postulated accident for which a structure, system, or component must meet its functional goals. [Adapted from: 10 CFR Part 50]			
		13.	DISPOSAL AUTHORIZATION STATEMENT. Documentation authorizing operation (or continued operation) of a low-level waste disposal facility resulting from the DOE Headquarters review and acceptance of the facility's performance assessment, composite analysis, and other information and evaluations. The disposal authorization statement constitutes approval of the performance assessment and composite analysis, authorizes operation of the facility, and includes conditions the disposal facility must meet. [Adapted from: Revised Interim DOE Policy Management Direction and Oversight of Low-Level Radioactive Waste Management and Disposal]			
		14.	DISPOSITION. Those activities that follow generation of a waste and which constitute completion of the life cycle of management of the waste, including, but not limited to, stabilization, deactivation, disposal, decommissioning, dismantlement, and/or reuse. [Adapted from: DOE O 430.1]			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		15.	EFFLUENT. Any treated or untreated air emission or liquid discharge at a DOE site or from a DOE facility. [Source: DOE 5400.1]	• 5400.1 on contract		
		16.	FACILITY. See RADIOACTIVE WASTE MANAGEMENT FACILITY.			
		17.	FIELD ELEMENT. See DEPARTMENTAL ELEMENTS.			
		18.	FIELD ELEMENT MANAGER. See DEPARTMENTAL ELEMENTS.			
		19.	GENERATOR. Organizations within DOE or managed by DOE whose act or process produces radioactive waste or, for the purposes of the generator requirements in this Order and Manual, transfer radioactive waste to a treatment, storage, or disposal facility. [Adapted from: 40 CFR Part 270]			
		20.	GRADED APPROACH. A process by which the level of analysis, documentation, and actions necessary to comply with a requirement are commensurate with (1) the relative importance to safety, safeguards, and security; (2) the magnitude of any hazard involved; (3) the life cycle stage of a facility; (4) the programmatic mission of a facility; (5) the particular characteristics of a facility; and (6) any other relevant factor. [Source: 10 CFR 830.3]			
		21.	HAZARD. A source of danger (i.e., material, energy source, or operation) with the potential to cause illness, injury, or death to personnel or damage to an operation or to the environment (without regard for the likelihood or credibility of accident scenarios or consequence mitigation). [Source: DOE M 411.1-1]	• M 411.1-1 not on contract - impact TBD (HOTAREK)		
		23.	LESSONS LEARNED. The process for communicating a "good work practice" or innovative approach that should be implemented or an adverse work practice or experience that should be avoided. [Adapted from: DOE M 232.1-1A]	• M 232.1-1A on contract (HFID 232.1B)		
		24.	LIFE CYCLE. The life of a waste from generator planning through generation, storage, treatment, and disposal. [Adapted from: DOE O 430.1A]	• O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
		26.	MAINTENANCE. Day-to-day work, including preventive and predictive maintenance, that is required to maintain and preserve plant and capital equipment in a condition suitable for it to be used for its designated purpose. [Source: DOE O 430.1A]	• O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		30.	NECESSARY AND SUFFICIENT PROCESS. The sets of standards which are the product of the "Necessary and Sufficient Process" of DOE M 450.3-1. That Process establishes the sets of agreed upon standards to ensure adequate protection of the safety and health of workers and the public and the protection of the environment against the hazards associated with performing the work of the Department of Energy. [Adapted from: DOE G 450.3-1]	• M 450.3-1 and G 450.3-1 are not on contract – impacts TBD (HOTAREK)		
		31.	OVERSIGHT. The responsibility and authority assigned to line management to assess the adequacy of DOE and contractor performance. Independent Oversight refers to the responsibility and authority assigned to the Assistant Secretary for Environment, Safety and Health to independently assess the adequacy of DOE and contractor performance. [Adapted from: DOE M 411.1-1]	• M 411.1-1 not on contract - impact TBD (HOTAREK)		
		33.	PROGRAM SECRETARIAL OFFICER. Head of a Departmental Element who has responsibility for a specific program or facility(ies). These include the Assistant Secretaries for Defense Programs, Energy Efficiency and Renewable Energy, Environmental Management, and Fossil Energy; and the Directors of the Offices of Civilian Radioactive Waste Management, Science, and Nuclear Energy; and (2) a Cognizant Secretarial Officer is a DOE official at the Assistant Secretary level who is responsible for the assignment of work, the institutional overview of any type of facility, or both, and the management oversight of a laboratory. [Source: DOE M 232.1-1A]	• M 232.1-1A on contract (HFID 232.1B)		
		34.	RADIOACTIVE MIXED WASTE. See MIXED WASTE.			
		36.	RADIOACTIVE WASTE MANAGEMENT BASIS. The radioactive waste management controls applied to DOE facilities, operations, and activities to provide near- and long-term protection of public, workers, and the environment. The radioactive waste management basis consists of controls and analyses such as facility waste certification programs, facility waste acceptance requirements, low-level waste disposal facility closure plans, performance assessments, composite analyses, and other facility-specific processes, procedures, and analyses made to comply with DOE O 435.1 and its Manual. [No other source of definition identified]			
		38.	RECORD. A completed document or other medium that provides objective evidence of an item, service, or process. [Source: 10 CFR 830.3]			

5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		39.	RELEASE Any discharging, dumping, emitting, emptying, escaping, injecting, leaching, leaking, pouring, pumping, spilling of radioactive substances into the environment including abandoning any type of receptacle containing radioactive substances, but does not include disposal in a permitted disposal facility. [Adapted from: DOE Glossary]			
		40.	RELEASE OF WASTE. The exercising of DOE's authority to release property that has been declared waste from its control after confirming that residual radioactive material on the waste has been determined to meet the guidelines for residual radioactive material in accordance with DOE Order 5400.5, Radiation Protection of the Public and the Environment, and other applicable radiological requirements. [Adapted from: DOE 5400.5]	• 5400.5 on contract with changes 1 and 2 – impact TBD (HOTAREK)		
		41.	SITE. A geographic entity comprising leased or owned land, buildings, and other structures required to perform program activities. [Source: DOE O 430.1A]	• O 430.1 on contract, but not with "A" – RLID 430.1 – impact TBD (HOTAREK)		
		42.	SOURCE MATERIAL. (1) Uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium or (iii) any combination thereof. Source material does not include special nuclear material. [Source: 10 CFR Part 40]			
		43.	SPECIAL NUCLEAR MATERIAL. (1) Plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which is determined, pursuant to the provisions of section 51 [of the Atomic Energy Act of 1954, as amended], to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material. [Source: Atomic Energy Act of 1954, as amended]			
		45.	STAGING. Storing waste for the purpose of accumulation to facilitate transportation transfer, treatment and/or disposal. [Adapted from: Surplus Plutonium Disposition Draft Environmental Impact Statement, July 1998]			
		47.	STORAGE FOR DECAY. Storage of radioactive waste for a period of time sufficient for radionuclide(s) of concern to be reduced in concentration, by radioactive decay, to a level of lower concern. [Source: DOE 5820.2A]	• 5820.2A on contract		

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5820.2A Citation	5820.2A REQUIREMENT	435.1-1 Citation	435.1-1 REQUIREMENT	IMPACTS / PROPOSED COMPLIANCE	RESOURCES/DURATION	
					PRE-JULY 2000	POST-JULY 2000
		48.	SYSTEMS ENGINEERING. A total systematic approach for the development of systems in response to a defined need. It involves a comprehensive, structured and disciplined approach to all life-cycle phases. Systems Engineering employs a multi-discipline team to iteratively define and refine solutions to problems throughout the system life cycle. Preferred alternatives are selected based on cost, schedule, performance and risk. Management of risk is integral to the process. Progressive verification, from individual components up through the total system, is required. [Source: EIA-632, Systems Engineering]	• EIA-632 not on contract – impact TBD (HOTAREK)		
		51.	WASTE ACCEPTANCE CRITERIA (WAC). Waste acceptance criteria are the technical and administrative requirements that a waste must meet in order for it to be accepted at a storage, treatment, or disposal facility. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
		52.	WASTE ACCEPTANCE REQUIREMENTS. Waste acceptance requirements are waste acceptance criteria, and all other requirements that a facility receiving radioactive waste for storage, treatment, or disposal must meet to receive waste (e.g., waste acceptance program requirements, receiving facility operations manual). [Adapted from: DOE O 5820.2A]	• 5820.2A on contract		
		53.	WASTE CHARACTERIZATION. The identification of waste composition and properties, by review of acceptable knowledge (which includes process knowledge), or by nondestructive examination, nondestructive assay, or sampling and analysis, to comply with applicable storage, treatment, handling, transportation, and disposal requirements. [Adapted from: DOE Glossary ("Characterization" definition) and Federal Register, Vol. 62, No. 224]			
		54.	WASTE CERTIFICATION. A process by which a waste generator affirms that a given waste or waste stream meets the waste acceptance criteria of the facility to which the generator intends to transfer waste for treatment, storage, or disposal. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
		55.	WASTE CONTAINER. A receptacle for waste, including any liner, shielding, or material that is intended to accompany the waste in disposal. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		
		57.	WASTE STREAM. A waste or group of wastes from a process or a facility with similar physical, chemical, or radiological properties. [Adapted from: DOE 5820.2A]	• 5820.2A on contract		

ATTACHMENT 8

FLUOR HANFORD, RIVER CORRIDOR PROJECT

RIVER CORRIDOR PROJECT FACITITES IDENTIFICATION LIST FOR GAP ANALYSIS DOE ORDER 435.1 (MANUAL 435.1-1)

The attached GAP Analysis was performed for the following River Corridor Project (RCP) facilities

- 324 Facility
- 327 Facility
- 340 / 310 Facilities
- 200 Area Accelerated Deactivation Facilities
  - 224-T, 231-Z, 242B/BL, 222-U, 222-T.
- 300 Accelerated Deactivation (Fuel Supply System) Facilities
  - 333, 313, 309, 321, 321B, 321C, 3706, 3706A, 377, 303A, 303B, 303E, 303F, 303G, 3712, 3716, 303K/3707G, 303M, 304/304A, 334/334A.

Note: FH-WMP group performed A Gap Analysis for PUREX Tunnels.

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
Intro. Para. 1.	1. PURPOSE. This Manual further describes the requirements and establishes specific responsibilities for implementing DOE O.435.1, Radioactive Waste Management, for the management of DOE high-level waste, transuranic waste, low-level waste, and the radioactive component of mixed waste. The purpose of the Manual is to catalog those procedural requirements and existing practices that ensure that all DOE elements and contractors continue to manage DOE's radioactive waste in a manner that is protective of worker and public health and safety, and the environment.	NO ACTION REQUIRED Statement of Purpose only	NO / ALL FACILITIES
Intro. Para. 2	2. APPLICABILITY. The requirements set forth in this Manual apply to DOE elements and contractors as set forth in DOE O 435.1, Radioactive Waste Management.	NO ACTION REQUIRED	NO / ALL FACILITIES
Intro. Para. 3	3. SUMMARY. This Manual is organized into four (4) chapters. Chapter I, General Requirements and Responsibilities, contains requirements and responsibilities which are applicable to all radioactive waste types and delineates responsibilities for radioactive waste management decision-making at the complex-wide and Field Element levels. Chapters II through IV contain those requirements that are applicable to high-level waste, transuranic waste, and low-level waste including the radioactive component of mixed low-level waste, respectively.	NO ACTION REQUIRED	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
Intro. Para. 4	4. IMPLEMENTATION. The requirements of this Manual apply to all new and existing DOE radioactive waste management facilities, operations, and activities. Implementation of the requirements shall begin at the earliest possible date, and all DOE entities shall be in compliance with this directive within one year of its issuance. Compliance with this directive includes implementing the requirements or an approved implementation or corrective action plan. If compliance with this Order cannot be achieved within one year of its issuance, the Field Element Manager must request approval to extend the compliance date to no later than October 1, 2001, from the cognizant Program Secretarial Officer (PSO). Failure to implement the requirements of this directive shall, through the appropriate lines of management, result in corrective actions including, if necessary, shutdown of radioactive waste management facilities, operations, or activities until the appropriate requirements are implemented. Any of the requirements in this Manual may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, the applicable or relevant and appropriate requirements identification process for actions taken pursuant to the Department's CERCLA authorities, or by an exemption processed in accordance with the requirements of DOE M 251.1-1A, Directives System Manual.	The implementation plan will address this requirement.	YES / ALL FACILTIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
Intro. Para. 5	5. REVISIONS. Systematic planning, execution, and evaluation of radioactive waste management facilities, operations, and activities will provide the basis for evaluating the adequacy of and, if necessary, revising the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. The revision process will be based on DOE P 450.4, Safety Management System Policy, and will implement continuous improvement for management of radioactive waste. The process includes: identifying the functions necessary to execute radioactive waste management responsibilities; conducting an analysis of the hazards associated with performing those functions; developing and implementing the proper controls to mitigate any associated hazards; developing and implementing a periodic assessment of work performance; and providing feedback to revise the work processes and incorporate lessons learned, as appropriate. Administrative requirements of the Order and Manual will be revised as needed to support safe and efficient waste management.	NO ACTION REQUIRED	NO / ALL FACILITIES
Intro. Para. 6	6. DEFINITIONS. Definitions for DOE M 435.1-1, Radioactive Waste Management Manual, are provided in Attachment 2.	NO ACTION REQUIRED	NO / ALL FACILITIES
Intro. Para. 7	7. REFERENCE. DOE O 435.1, Radioactive Waste Management, dated 7-09-99.	NO ACTION REQUIRED	NO / ALL FACILITIES
Intro. Para. 8	8. CONTACT. Call the Office of Waste Management at (202) 586-0370.	NO ACTION REQUIRED	NO / ALL FACILITIES
	GENERAL REQUIREMENTS AND RESPONSIBILITIES	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH. I.1	1. REQUIREMENTS	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.I.1.A.	A. Delegation of Authority. Managers charged with responsibilities within this Manual may delegate authority for these tasks to another manager. All delegations of authority shall be documented.	DOE-RL ACTION	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.B.	B. Use of Guidance. Additional information supporting the requirements in this Manual is contained in the Implementation Guide for use with DOE M 435.1-1, Radioactive Waste Management Manual. This Guide, DOE G 435.1-1, Implementation Guide for DOE M 435.1-1, shall be reviewed when implementing the requirements of this Manual. The Guide provides additional information and acceptable methods for meeting the requirements. Other methods may be used but must ensure an adequate level of safety commensurate with the hazards associated with the work and be consistent with the radioactive waste management basis.	NO ACTION REQUIRED (definition)	NO / ALL FACILITIES
CH.I.1.C.	C. Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, Radioactive Waste Management, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.	NO ACTION REQUIRED (definition)	NO / ALL FACILITIES
CH.I.1.D.	D. Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, National Environmental Policy Act Implementing Procedures; and DOE O 451.1A, National Environmental Policy Act Compliance Program. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.	DOE O 451.1A is not in contract. RCP FACILITIES maintain compliance with this requirement through compliance with HNF-PRO-452.	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.	E. Requirements of Other Regulations and DOE Directives. The following requirements and DOE directives are required for all DOE radioactive waste management facilities, operations, and activities as applicable. Any of the requirements for the following Departmental directives may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, Safety Management System Policy, or by an exemption processed in accordance with the requirements of that directive or DOE M 251.1-1A, Directives System Manual.	NO ACTION REQUIRED (but see below for individual requirements) A waiver process is currently in place per HNF-MP-001, Rev. 1 (5/14/99). See section 1-E (1-21) for compliance of specific document requirements.	NO / ALL FACILITIES
CH.I.1.E.(1)	(1) Analysis of Operations Information. Data that measure the environment, safety, and health performance of radioactive waste management facilities, operations, and activities shall be identified, collected, and analyzed as required by DOE O 210.1, Performance Indicators and Analysis of Operations Information.	DOE O 210.1 Not in current FH Contract Requires development by DOE-HQ and RL of complex-wide and site-wide performance indicators. Note: RCP Facilities have performance indicator systems, but indicators specific to rad waste management activities, will need to be developed once the complex-wide and site-wide performance indicators are issued.	YES / ALL FACILITIES
CH.I.1.E.(2)	(2) Classified Waste. Radioactive waste to which access has been limited for national security reasons and cannot be declassified shall be managed in accordance with the requirements of DOE 5632.1C, Protection and Control of Safeguards and Security Interests, and DOE 5633.3B, Control and Accountability of Nuclear Materials.	RCP Facilities do not manage classified waste as defined by 435.1.	NO / ALL FACILITIES
CH.I.1.E.(3)	(3) Conduct of Operations. Radioactive waste management facilities, operations, and activities shall be conducted in a manner based on consideration of the associated hazards. Waste management facilities, operations, and activities shall meet the requirements of DOE 5480.19, Conduct of Operations Requirements for DOE Facilities.	RCP Facilities Facility operate within DOE Order 5480.19 through implementation of RCP Facilities procedures and facility specific Con-Ops applicability matrices. Compliance is verified by scheduled ConOps assessments performed within the RCP Facilities Facility	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.(4)	(4) Criticality Safety. Radioactive waste management facilities, operations, and activities shall be covered by a criticality safety program in accordance with DOE O 420.1, Facility Safety.	DOE O 420.1 is not in the current FH Contract. Instead of DOE O 420.1, RCP Facilities follow these DOE orders for implementation of its Criticality Safety Program: 5480.228, 5480.7A, 6430.1A, and 5480.24.	YES / ALL FACILTIES
CH.I.1.E.(5)	**(5) Emergency Management Program. Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, Comprehensive Emergency Management System.**	• **RCP Facilities maintain an emergency management program in accordance with DOE O 151.1. The emergency preparedness program is implemented through a hierarchy of documentation that directs personnel in the response to offsite and near-site facility emergencies that have the potential for detrimentally affecting the health of personnel and safety of operations at the Hanford Site**	NO / ALL FACILITIES
CH.I.1.E.(6)	(6) Environmental and Occurrence Reporting. Radioactive waste management facilities, operations, and activities shall meet the reporting requirements of DOE O 231.1, Environment, Safety and Health Reporting, and DOE O 232.1A, Occurrence Reporting and Processing of Operations Information.	DOE O 231.1 is not in the current FH Contract. RCP Facilities comply with order DOE O 5484.1 and DOE O 232.1A through HNF-PRO-060, Reporting Occurrences and Processing Operations Information.	YES / ALL FACILTIES
CH.I.1.E.(7)	**(7) Environmental Monitoring. Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, General Environmental Protection Program, and DOE 5400.5, Radiation Protection of the Public and the Environment.**	**Compliance per DOE/RL-91-50. Site-Wide Environmental Monitoring Plan covers this requirement as well as Ground Water Well Monitoring Program (PNNL) HSER-PNNL.**	NO /ALL FACILITIES
CH.I.1.E.(8)	(8) Hazard Analysis Documentation and Authorization Basis. Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.	The referenced Orders 425.1A, Startup and Restart of Nuclear Facilities, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports are not in the contract. Some RCP Facilities have ISBs but SARs are yet to be completed as required by 5480.23. RCP facilities will need to verify ISBs and SARs are in place to be in compliant with these orders/requirements.	YES / ALL FACILTIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.(9)	(9) Life-Cycle Asset Management. Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, Life-Cycle Asset Management, and DOE 4330.4B, Maintenance Management Program, including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.	Order 430.1A is not in contract.	YES / ALL FACILTIES
CH.I.1.E.(10)	(10) Mixed Waste. Radioactive waste that contains both source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component is also subject to the Resource Conservation and Recovery Act (RCRA), as amended.	This requirement is recognized by HNF-PRO-455. Mixed waste is managed in SAAs, < 90 day accumulation areas, and permitted storage units. RCP Facilities have RCRA permits in place or are in development for HW/MW TSD activities. TPA negotiations/discussions are in progress to further define RCRA jurisdiction.	NO / ALL FACILITIES
CH.I.1.E.(11)	(11) Packaging and Transportation. Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, Packaging and Transportation Safety, and DOE O 460.2, Departmental Materials Transportation and Packaging Management.	DOE Order 435.1 *Radioactive Waste Management* has applicability to the Hanford Site transportation and packaging guidance documents and procedures (HNF-PROs). The Order should be referenced and its requirements covered in the following transportation and packaging HNF-PROs. • HNF-PRO 154, Responsibilities *and Procedures for All Hazardous Material shipments.* • HNF-PRO-156, *Non-radioactive Hazardous Materials/Hazardous Waste (HM/HW) Shipments.* • HNF-PRO-157, *Radioactive Material/Waste Shipments.* • HNF-PRO-163, *Documentation and Record Keeping.* DOE Order 460.1A and 460.2 are incorporated into the Project Hanford Management Contract (PHMC). DOE RL has deemed the Hanford Site Transportation and Packaging program to be in compliance with Federal Regulations, applicable RCRA requirements, and applicable DOE Orders	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.(12)	(12) Quality Assurance Program. Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, Quality Assurance Requirements, and DOE O 414.1, Quality Assurance, as applicable.	The Fluor Daniel Hanford Quality Assurance Program is documented as HNF-MP-599 Rev. 3. *Project Hanford Quality Assurance Program Description* (QAPD). This is an ASME NQA-1 based program that has been approved by the Department of Energy (DOE) for use in satisfying the PHMC contract including 10 CFR 830.120 *Quality Assurance requirements and Responsibilities,* DOE O 414.1 *Quality Assurance* HNF-MP-599 is expected to reference the new DOE O 414.1 in the next revision. Under this quality assurance program the Major Subcontractors (MSCs) have issued Quality Assurance Program Plans (QAPPs) to document the interface of their internal procedures with this QAPD. The QAPPs must satisfy the requirements of the Tri-Party Agreement (TPA), Washington Administrative Codes, and Federal Environmental Regulations, Office of Civilian Radioactive Waste Management (OCRWM) requirements, the Hanford Analytical Services Requirement Document, and the Waste Isolation Pilot Plant (WIPP) QA Program.	NO / ALL FACILITIES
CH.I.1.E.(13)	(13) Radiation Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 835, Occupational Radiation Protection, and DOE 5400.5, Radiation Protection of the Public and the Environment.	RCP Facilities are in compliance with 10 CFR 835 by implementation of HNF-SP-1145, Fluor Daniel Hanford Radiation Protection Program, implementation of Title 10 Code of Federal Regulation, Part 835. Completion of the triennial assessment of 10 CFR 835 compliance (completed December 1998) provides the basis for statement. HNF-IP-0718, Procedure 6.1, Survey for Material and Equipment, is used to meet DOE 5400.5 requirements for releasing material and equipment. This procedure is not applicable for volumetric release. See 1.1.E (15) for futher DOE 5400.5 implementation.	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.(14)	(14) Records Management. Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, Information Management Program, and DOE O 414.1, Quality Assurance. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste.	DOE Order 200.1 is not in the contract. The records system being implemented on the Waste Isolation Pilot Plant (WIPP) project is undergoing an audit and may indicate weaknesses at RCP Facilities.	YES / ALL FACILTIES
CH.I.1.E.(15)	**(15) Release of Waste Containing Residual Radioactive Material. Processes for determining and documenting that waste is suitable to be released and managed without regard to its radioactive content shall be in accordance with the criteria and requirements in DOE 5400.5, Radiation Protection of the Public and the Environment.**	**Compliance per HNF-PRO-394**	**NO / ALL FACILITIES**
CH.I.1.E.(16)	**(16) Safeguards and Security. Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, Safeguards and Security Program.**	**DOE O 470.1 is implemented on site through RLID-473.1 and compliance per HNF-PRO-394 and HNF-PRO-427**	**NO / ALL FACILITIES**
CH.I.1.E.(17)	(17) Safety Management System. Radioactive waste management facilities, operations, and activities shall incorporate the principles of integrated safety management as described in DOE P 450.4, Safety Management System Policy, and DOE P 450.5, Line Environment, Safety and Health Oversight, and meet the requirements of the safety management systems sections of 48 CFR Chapter 9, Department of Energy Acquisition Regulations and DOE M 411.1-1, Manual of Safety Management Functions, Responsibilities, and Authorities.	DOE P 450.4, *Safety Management System Policy*; DOE P 450.5, *Line Environment, Safety and Health Oversight*; and DOE M 411.1-1, *Manual of Safety Management Functions, Responsibilities, and Authorities* are not in the contract. RCP Facilities are implementing the Integrated Environment, Safety and Health Management System (ISMS) in accordance with previous direction The overall ISMS program is in the implementation phase at this time. A verified ISM system must be in place by September 2000.	YES / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.(18)	(18) Site Evaluation and Facility Design. New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, Facility Safety, and DOE O 430.1A, Life-Cycle Asset Management.	NO ACTION REQUIRED – New facilities only DOE O 420.1 and 430.1A are not in the contract.	NO / ALL FACILITIES
CH.I.1.E.(19)	(19) Training and Qualification. A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, Training, and DOE 5480.20A, Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities.	DOE O 360.1 is not in contract. Gap evaluated for compliance with 5480.20A that is in contract. RCP Facilities are compliant with 5480.20A. Imposition of DOE O 5480.20A requirements on rad waste personnel, designers, and operators could be a significant impact.	YES / ALL FACILTIES
CH.I.1.E.(20)	(20) Waste Minimization and Pollution Prevention. Waste minimization and pollution prevention shall be implemented for radioactive waste management facilities, operations, and activities to meet the requirements of Executive Order 12856, Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, and Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, and DOE 5400.1, General Environmental Protection Program.	Executive Order (EO) 13101 is not in our contract. The order 5400.1 and EO 12856 are in our contract, no gap exists for these two requirements. EO 13101 includes requirements for procurement of biobased products and for agency waste reduction goals that are not included in the current PHMC contract (FR, 1998). Further study will be required to determine the impact of EO 13101 requirements that are included in amended contracts in the future..	YES / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.1.E.(21)	(21) Worker Protection. Radioactive waste management facilities, operations, and activities shall meet the requirements of DOE O 440.1A, Worker Protection Management for DOE Federal and Contractor Employees.	DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, is not in the FH contract, and the gap analysis provide here is based on the equivalent old Orders. Those old Orders, which specified in the contract, are: • 5480.4, *Environmental Protection, Safety, and Health Protection Standards* • 5480.7A, *Fire Protection* • 5480.8A, *Contractor Occupational Medical Program* • 5480.9A, *Construction Project Safety and Health Management* • 5480.10, *Contractor Industrial Hygiene Program* • 5480.16A, *Firearms Safety* • 5483.1A, *Occupational Safety and Health Program for DOE Contractor Employees at Government-Owned Contractor-Operated (GOCO) Facilities* The above Orders have been in place and these are numerous oversight and self-assessment activities that assure ongoing compliance with requirements of those Orders. No programmatic gaps have been identified. In some instances, Order requirements are not applicable to RCP Facilities. Examples include requirements of Order 5480.16A, which fall under the Site security contractor, and management of the occupational medical program that resides with the Site medical contractor.	YES / ALL FACILTIES
CH.I.2.	2. RESPONSIBILITIES	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.I.2.A.	A. Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	DOE-HQ ACTION REQUIRED Note: ALL FACILITIES Potential Gap depending on the outcome of implementation of complex-and site-wide requirements, facilities may need to modify radioactive waste management procedures and activities.	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.B.	B. Assistant Secretary for Environmental Management. The Assistant Secretary for Environmental Management is responsible for: (1) Complex-Wide Radioactive Waste Management Programs. Establishing and maintaining integrated Complex-Wide Radioactive Waste Management Programs for high-level, transuranic, low-level, and mixed low-level waste. These programs shall use a systematic approach to planning, execution, and evaluation to ensure that waste generation, storage, treatment, and disposal need are met and coordinated across the DOE complex. (2) (2) Changes to Regulations and DOE Directives. Ensuring changes to regulations and DOE directives are reviewed and, when necessary, incorporated into revisions of this Manual to ensure the basis for safe radioactive waste management facilities, operations, and activities is maintained.	DOE-HQ ACTION Note: ALL FACILITIES Potential Gap depending on the outcome of implementation of complex-and site-wide requirements, facilities may need to modify radioactive waste management procedures and activities.	NO / ALL FACILITIES
CH.I.2.C.	C. Assistant Secretary for Environment, Safety, and Health. The Assistant Secretary for Environment, Safety and Health is responsible for providing an independent overview of DOE radioactive waste management and decommissioning programs to determine compliance with DOE environment, safety, and health requirements and applicable Environmental Protection Agency (EPA) and state regulations, including: (1) Advising the Secretary of the status of Departmental compliance with the requirements of DOE O 435.1, this Manual, and applicable provisions of other DOE Orders. (2) (2) Conducting independent appraisals and audits of DOE waste management programs. (3) (3) Reviewing site Waste Management Plans with regard to compliance with DOE environment, safety, and health requirements.	DOE-HQ ACTION Note: ALL FACILITIES Potential Gap depending on the outcome of implementation of complex-and site-wide requirements, facilities may need to modify radioactive waste management procedures and activities.	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.D.	D. Deputy Assistant Secretary for Waste Management. The Deputy Assistant Secretary for Waste Management is responsible for: (1) Complex-Wide Radioactive Waste Management Program Plans. Developing, implementing, and maintaining integrated Complex-Wide Radioactive Waste Management Program Plans for high-level, transuranic, low-level, and mixed low-level waste. Each plan shall, at the DOE complex-wide level, describe the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat and dispose of radioactive waste in a manner that is protective of the public, workers, and the environment. In addition, the plans shall: (a)send a waste management strategy that integrates waste projections and life-cycle waste management planning into complex-wide facility configuration decisions; and (b) Describe the approach to research and technology development being pursued to improve safety and/or efficiency in managing radioactive waste. (2) Waste Management Data System. Establishing and maintaining a system to compile waste generation projection data and other information concerning radioactive waste management facilities, operations, and activities across the complex.	DOE-HQ ACTION Note: ALL FACILITIES Potential Gap depending on the outcome of implementation of complex-and site-wide requirements, facilities may need to modify radioactive waste management procedures and activities.	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.E	E. Deputy Assistant Secretaries for Waste Management and Environmental Restoration. The Deputy Assistant Secretary for Waste Management and the Deputy Assistant Secretary for Environmental Restoration are responsible for: (1) Disposal. Reviewing and approving, along with EH-1, transuranic waste disposal facility performance assessments and other disposal documents as required in waste specific chapters for which DOE is responsible for making compliance determinations. Reviewing and approving performance assessments and composite analyses, or appropriate CERCLA documentation, for low-level waste disposal facilities, and issuing disposal authorization statements. (a) The Deputy Assistant Secretaries shall establish a review panel consisting of DOE personnel to review low-level waste disposal facility performance assessments and composite analyses, review appropriate CERCLA documentation, recommend low-level waste disposal facility compliance determinations to the Deputy Assistant Secretaries, and develop disposal authorization statements. (b) The Deputy Assistant Secretaries shall issue disposal authorization statements containing conditions that low-level waste disposal facilities must meet in order to operate with an approved radioactive waste management basis. (2) (2) Site Closure Plans. Reviewing and approving closure plans and other closure documentation for deactivated high-level waste facilities/sites and issuing authorization for closure activities to proceed.	DOE-HQ ACTION Note: ALL FACILITIES Potential Gap depending on the outcome of implementation of complex-and site-wide requirements, facilities may need to modify radioactive waste management procedures and activities.	NO / ALL FACILITIES
CH.I.2.F	F. Field Element Managers. Field Element Managers are responsible for:	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(1)	(1) Site-Wide Radioactive Waste Management Programs. Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager.	NO / ALL FACILITIES
CH.I.2.F.(2)	(2) Radioactive Waste Management Basis. Ensuring a radioactive waste management basis is developed and maintained for each DOE radioactive waste management facility, operation, and activity; and ensuring review and approval of the basis before operations begin. The Radioactive Waste Management Basis shall: (a) Reference or define the conditions under which the facility may operate based on the radioactive waste management documentation; (b) Include the applicable elements identified in the specific waste-type chapters of this Manual; and (c) Be developed using the graded approach process.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: II(F) III(D) IV(D)	NO / ALL FACILITIES
CH.I.2.F.(3)	(3) Waste Minimization and Pollution Prevention. Ensuring implementation of waste minimization and pollution prevention programs.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following section of the order: I.1.E.(20)	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(4)	(4) Approval of Exemptions for Use of Non-DOE Facilities. DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. If DOE capabilities are not practical or cost effective, exemptions may be approved to allow use of non-DOE facilities for the storage, treatment, or disposal of DOE radioactive waste based on the following requirements:	DOE-RL ACTION, BUT The Site does not have a formal process for documenting and obtaining exemptions for use of non-DOE treatment facilities to treat Hanford site waste. Exemption is necessary for existing contracts with service providers. The site occasionally uses non-DOE facilities for treatment of waste (e.g., ATG mixed waste treatment). Storage and disposal of Hanford waste at non-DOE facilities is unlikely. This process will need to be developed.	YES / ALL FACILTIES
CH.I.2.F. (4).(a).	(a) Such non-DOE facilities shall: 1. Comply with applicable Federal, State, and local requirements; 2. Have the necessary permit(s), license(s), and approval(s) for the specific waste(s); and 3. Be determined by the Field Element Manager to be acceptable based on a review conducted annually by DOE.	DOE-RL ACTION	NO / ALL FACILITIES
CH.I.2.F. (4). (b).	(b) Exemptions for the use of non-DOE facilities shall be documented to be cost effective and in the best interest of DOE, including consideration of alternatives for on-site disposal, an alternative DOE site, and available non-DOE facilities; consideration of life-cycle cost and potential liability; and protection of public health and the environment.	DOE-RL ACTION	NO / ALL FACILITIES
CH.I.2.F.(4).(c).	(c) DOE waste shall be sufficiently characterized and certified to meet the facility's waste acceptance criteria.	DOE-RL ACTION	NO / ALL FACILITIES
CH.I.2.F.(4).(d).	(d) Appropriate National Environmental Policy Act (NEPA) review must be completed. For actions taken under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), it is DOE's policy to incorporate NEPA values into the CERCLA documentation.	DOE-RL ACTION	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(4).(e).	(e) Headquarters shall be notified of any exemption allowing use of a non-DOE facility and the Office of the Assistant Secretary for Environment, Safety and Health (EH-1) shall be consulted prior to the exemption being executed.	DOE-RL ACTION	NO / ALL FACILITIES
CH.I.2.F.(4).(f).	(f) Host States and State Compacts where non-DOE facilities are located shall be consulted prior to approval of an exemption to use such facilities and notified prior to shipments being made.	DOE-RL ACTION	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(5)	(5) Environmental Restoration, Decommissioning, and Other Cleanup Waste. Ensuring the management and disposal of radioactive waste resulting from environmental restoration activities, including decommissioning, meet the substantive requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. Environmental restoration activities using the CERCLA process (in accordance with Executive Order 12580) may demonstrate compliance with the substantive requirements of DOE O 435.1, Radioactive Waste Management, and this Manual (including the Performance Assessment and performance objectives, as well as the Composite Analysis) through the CERCLA process. However, compliance with all substantive requirements of DOE O 435.1 not met through the CERCLA process must be demonstrated. Environmental restoration activities which will result in the off-site management and disposal of radioactive waste must meet the applicable requirements of DOE O 435.1, Radioactive Waste Management, and this Manual for the management and disposal of those off-site wastes. Field Elements performing environmental restoration activities involving development and management of radioactive waste disposal facilities under the CERCLA process shall: (a) Submit certification to the Deputy Assistant Secretary for Environmental Restoration that compliance with the substantive requirements of DOE O 435.1 have been met through application of the CERCLA process; and (b) Submit the decision document, such as the Record of Decision, or any other document that serves as the authorization to dispose, to the Deputy Assistant Secretary for Environmental Restoration for approval.	DOE-RL ACTION.	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(6)	(6) Radioactive Waste Acceptance Requirements. Ensuring development, review, approval, and implementation of the radioactive waste acceptance requirements for facilities that receive waste for storage, treatment, or disposal. Radioactive waste acceptance requirements shall establish the facility's requirements for the receipt, evaluation, and acceptance of waste.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: II(J) III(G) IV(G)	NO / ALL FACILITIES
CH.I.2.F.(7)	(7) Radioactive Waste Generator Requirements. Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: II(K)(L)(M)(N) III(H)(I)(J)(K) IV(H)(I)(J)(K)	NO / ALL FACILITIES
CH.I.2.F.(8)	(8) Closure Plans. Ensuring development, review, approval, and implementation of closure plans for radioactive waste management facilities in accordance with the applicable requirements in the waste-type chapters of this Manual.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: II(U) IV(Q)	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(9)	(9) Defense-In-Depth. Ensuring defense-in-depth principles are incorporated where potential uncertainties or vulnerabilities warrant their use when reviewing and approving radioactive waste management activities and documents. These principles advocate the use of multiple levels of engineered and administrative controls to provide protection to the public, workers, and the environment.	DOE-RL ACTION Implementation of the requirement is the responsibility of the Field Element Manager. BUT RCRA facilities will have to demonstrate "by documentation in the radioactive waste management basis that describes and provides a rationale for the layers of controls (defense-in-depth) in place to provide protection for the public, workers, and the environment."	YES / ALL FACILTIES
CH.I.2.F.(10)	(10) Oversight. Ensuring oversight of radioactive waste management facilities, operations, and activities is conducted. Oversight shall ensure radioactive waste management program activities are conducted in accordance with a radioactive waste management basis and meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: I.1.E.(17)	NO / ALL FACILITIES
CH.I.2.F.(11)	(11) Training and Qualification. Ensuring a training and qualification program is implemented for designated radioactive waste management program personnel, and the training is commensurate with job duties and responsibilities. Only those personnel who have been trained and qualified shall design or operate safety (safety class and safety significant) structures, systems, and components.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: I.1.E.(19)	NO / ALL FACILITIES
CH.I.2.F.(12)	(12) As Low As Reasonably Achievable (ALARA). Ensuring ALARA principles for radiation protection are incorporated when reviewing and approving radioactive waste management activities.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following section of the order: I.1.E.(13)	NO / ALL FACILITIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(13)	(13) Storage. Ensuring all radioactive waste is stored in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis, and that the integrity of waste storage is maintained for the expected time of storage and does not compromise meeting the disposal performance objectives for protection of the public and environment when the waste is disposed.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addresses in the following sections of the order: II(T) III(Q) IV(R)	NO / ALL FACILITIES
CH.I.2.F.(14)	(14) Treatment. Ensuring all radioactive waste requiring treatment is treated in a manner that protects the public, workers, and the environment and in accordance with a radioactive waste management basis.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order. II(R) III(O) IV(O)	NO / ALL FACILITIES
CH.I.2.F.(15)	(15) Disposal. Ensuring radioactive waste is disposed in a manner that protects the public, workers, and the environment and in accordance with a radioactive waste management basis. Reviewing specific transuranic or low-level waste documentation including the performance assessment and composite analysis, or appropriate CERCLA documentation, prior to forwarding them to Headquarters for approval, and obtaining and ensuring the facility is operated in accordance with the disposal authorization statement. Conducting performance assessment and composite analysis maintenance.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addresses in the following sections of the order: II(S) III(P) IV(P)	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(16)	(16) Monitoring. Ensuring monitoring is conducted for all radioactive waste management facilities as required. Ensuring that disposal facilities are monitored, as appropriate, for compliance with conditions of the disposal authorization statement.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: II(T) III(Q) IV(R)	NO / ALL FACILITIES
CH.I.2.F.(17)	(17) Material and Waste Declassification for Waste Management. Ensuring, to the extent practical, radioactive material and waste generated under a program that is classified for national security reasons is declassified or rendered suitable for unclassified radioactive waste management.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: I.1.E(2)	NO / ALL FACILITIES
CH.I.2.F.(18)	(18) Waste Incidental to Reprocessing. Ensuring that waste incidental to reprocessing determinations are made by either the "citation" or "evaluation" process described in Chapter II of this Manual. Ensuring consultation and coordination with the Office of Environmental Management for waste determined to be incidental to reprocessing through the "evaluation" process.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following section of the order: II(B)	NO / ALL FACILITIES
CH.I.2.F.(19)	(19) Waste With No Identified Path to Disposal. Ensuring a process is developed and implemented for identifying the generation of radioactive waste with no identified path to disposal, and reviewing and approving conditions under which radioactive waste with no identified path to disposal may be generated. Headquarters shall be notified of the decisions to generate a waste with no identified path to disposal.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar contractor requirements are addressed in the following sections of the order: II(K) III(H) IV(H)	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.I.2.F.(20)	(20) Corrective Actions. Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	DOE-RL ACTION Implementation of this requirement is the responsibility of the Field Element Manager. A gap analysis for similar facility-specific requirements are addressed in the following sections of the order: I(2)(G)(1)(2) II(I) III(F) IV(F)	NO / ALL FACILITIES
CH.I.2.G.	G. All Personnel. All personnel are responsible for: (1) Problem Identification. Identifying and reporting radioactive waste management facilities, operations, or activities that do not meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual, or that pose a threat to the safety of the public, workers, or the environment. (2) Shutdown or Curtailment of Activities. Stopping or curtailing work, through the appropriate level of management, to prohibit continuation of conditions or activities which pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.	Implementing documents exist though they are not specific to only radioactive waste management facilities, operations, or activities. Instead, they are inclusive of all workplace activities. Implementing documents include: • HNF-PRO-075, "Safety Communications." Requires the posting of specific notices that impart both the right and responsibility for identifying and resolving issues. • HNF-PRO-074, "Safety Responsibilities." Communicates responsibility for workers to identify safety-related problems and take appropriate action. HNF-PRO-3468, "Stop Work Responsibility," and HNF-PRO-074, "Safety Responsibilities," Appendix B, "Workers' Bill of Rights." These procedures and documents communicate the responsibility of personnel to shut down or curtail work activities if a safety issue or problem is identified. Includes the responsibility for communicating the safety problem and assisting with the resolution process.	NO / ALL FACILITIES
CH.II.	HIGH-LEVEL WASTE REQUIREMENTS	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.A.	A. Definition of High-Level Waste. High-level waste is the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation.	RCP Facilities do not manage HLW The irradiated fuel at 324 and 327 is not considered to be high-level waste since this spent nuclear fuel has not been separated by reprocessing. However, the wording from DOE G 435.1, Page 11-8, appears to imply that spent nuclear fuel would be considered high-level if it contains either fissile material or long-life transuranic isotopes that require permanent isolation. We will need to clarify this in our preparation of DOE 435.1 implementation plan.	NO / ALL FACILITIES YES / 324/327 AND 340 FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.B.	B. Waste Incidental to Reprocessing. Waste resulting from reprocessing spent nuclear fuel that is determined to be incidental to reprocessing is not high-level waste, and shall be managed under DOE's regulatory authority in accordance with the requirements for transuranic waste or low-level waste, as appropriate. When determining whether spent nuclear fuel reprocessing plant wastes shall be managed as another waste type or as high-level waste, either the citation or evaluation process described below shall be used: (1) Citation. Waste incidental to reprocessing by citation includes spent nuclear fuel reprocessing plant wastes that meet the description included in the Notice of Proposed Rulemaking (34 FR 8712) for proposed Appendix D, 10 CFR Part 50, Paragraphs 6 and 7. These radioactive wastes are the result of reprocessing plant operations, such as, but not limited to contaminated job wastes including laboratory items such as clothing, tools, and equipment; (2) Evaluation. Determinations that any waste is incidental to reprocessing by the evaluation process shall be developed under good record-keeping practices, with an adequate quality assurance process, and shall be documented to support the determinations. Such wastes may include, but are not limited to, spent nuclear fuel reprocessing plant wastes that: **a) Will be managed as low-level waste and meet the following criteria: 1).Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and , 2). Will be managed to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C, Performance Objectives; and, 3). Are to be managed, pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, and in accordance with the provisions of Chapter IV of this Manual, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C low-level waste as set out in 10 CFR 61.55, Waste Classification; or will meet alternative as DOE**	A gap exists, because Hanford Site waste acceptance and management operations programs do not evaluate incidental to reprocessing in a fashion that is compliant with requirement. The current waste acceptance and generation process does not consider waste incidental to reprocessing issues for waste generated at facilities with HLV sources. The potentially affected waste has not been cited or evaluated in the past, but will need to be in the future.	YES/ 324/327 AND 340 FACILITIES **NO / ALL FACILITIES**

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
	May authorize. (b) Will be managed as transuranic waste and meet the following criteria: 1. Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and 2. Will be incorporated in a solid physical form and meet alternative requirements for waste classification and characteristics, as DOE may authorize; and 3. Are managed pursuant to DOE's authority under the Atomic Energy Act of 1954, as amended, in accordance with the provisions of Chapter III of this Manual, as appropriate.		
CH.II.C.	C. Management of Specific Wastes. The following provide for management of specific wastes as high-level waste in accordance with the requirements in this Chapter: (1) Mixed High-Level Waste. Unless demonstrated otherwise, all high-level waste shall be considered mixed waste and is subject to the requirements of both the Atomic Energy Act of 1954, as amended, the Resource Conservation and Recovery Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual. (2) TSCA-Regulated Waste. High-level waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual.	NO ACTION REQUIRED (definition) RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.D.	D. Complex-Wide High-Level Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	DOE-HQ-ACTION	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.E.	E. Site-Wide Radioactive Waste Management Program. In addition to the items in Chapter I of this Manual, documentation of the Site-Wide Radioactive Waste Management Program shall include a description of the High-Level Waste Systems Engineering Management Program to support decision-making related to nuclear safety, including high-level waste requirements analysis, functional analysis and allocation, identification of alternatives, and alternative selection and system control.	FH ACTION RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.F.	F. Radioactive Waste Management Basis. High-level waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis: (1) Generators. The waste certification program. (2) Pretreatment and Treatment Facilities. The waste acceptance requirements and waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.G.	G. Quality Assurance Program. The following requirements are in addition to those in Chapter I of this Manual. (1) Product Quality. The requirements of RW-0333P, Quality Assurance Requirements and Description shall apply to those high-level waste items and activities important to waste acceptance/product quality. (2) Audits and Assessments. The evaluation and assessment requirements of RW 0333P, Quality Assurance Requirements Document and Description, and associated implementing procedures shall be met for high-level waste acceptance and product quality activities, in addition to the assessment requirements of other DOE directives and requirements identified in Chapter I of this Manual.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.H.	H. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving high-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of waste contained in any one storage vessel, pretreatment facility, or treatment facility. Tanks or other facilities that are designated for high-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet all the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.I.	I. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.J.	J. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.J.(1)	(1). Technical and Administrative. Waste acceptance requirements for all high-level waste storage, pretreatment, or treatment facilities, operations, and activities shall specify, at a minimum, the following: (a) Allowable activities and/or concentrations of specific radionuclides; (b) Acceptable waste form that ensures the chemical and physical stability of the waste under conditions that might be encountered during transfer, storage, pretreatment, or treatment; (c) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved; and (d) Pretreatment, treatment, storage, packaging, and other operations shall be designed and implemented in a manner that will ultimately comply with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.J.(2).	(2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that the technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.K.	K. Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.II.K.(1)	(1). Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all high-level waste streams.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.K.(2).	(2). Waste With No Identified Path to Disposal. High-level waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste (compliance with DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms).	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.L.	L. Waste Characterization. High-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.L.(1)	(1) Data Quality Objectives. The data quality objective process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.L.(2)	(2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any solidification media; (c) Radionuclides or source information sufficient to describe the approximate radionuclide content of the waste; and (d) Any other information which may be needed to demonstrate compliance with the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.L.(3).	(3) Hazardous Characteristics. Waste characterization processes shall yield sufficient chemical and physical data to clearly identify any hazardous characteristics that may degrade the ability of structures, systems, and components to perform their radioactive waste management function.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.M.	M. Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving high-level waste for storage, pretreatment, treatment, and disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for audibility, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. High-level waste shall be certified as meeting the waste acceptance requirements before it is transferred to the facility receiving the waste. (3) Maintaining Certification! High-level waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, pretreatment, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.N.	N. Waste Transfer. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.II.N.(1).	(1) Authorization. High-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.N.(2).	(2) Data. Waste characterization data and generation, storage, pretreatment, treatment, and transportation information for high-level waste shall be transferred with or be traceable to the waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.N.(3).	(3) Records and Transfer Reporting. The records and transfer requirements for canistered high-level waste forms shall comply with DOE/EM-0093, Waste Acceptance Product Specification for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.O.	O. Packaging and Transportation. The following requirement is in addition to those in Chapter I of this Manual. (1) Canistered Waste Form. Immobilized high-level waste shall meet the requirements of the DOE/EM-0093, Waste Acceptance Product Specifications for Vitrified High-Level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.	P. Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED – Applies to New Facilities Only	NO / ALL FACILITIES
CH.II.P.(1).	(1). Site Evaluation. Proposed locations for high-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new high-level waste facility or expansion of an existing high-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities. (b) Proposed sites with environmental characteristics, geotechnical characteristics, or human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2)..	(2) Facility Design. The following facility design requirements, at a minimum, apply:	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.P.(2).(a).	(a) Safety (Safety Class and Safety-Significant) Structures, Systems, and Components. Safety structures, systems, and components for high-level waste storage, pretreatment, and treatment facilities shall be designated and designed consistent with the provisions of DOE O 420.1, Facility Safety; DOE 5480.22, Technical Safety Requirements; and DOE 5480.23, Nuclear Safety Analysis Reports.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(b)	(b) Confinement. High-level waste systems and components shall be designed to maintain waste confinement. The following requirements apply to new or modifications to existing high-level waste systems, ancillary systems, and components: 1. Secondary confinement systems shall be designed to prevent any migration of wastes or accumulated liquid out of the waste system; shall be capable of detecting, collecting, and retrieving releases into the secondary confinement; and shall be constructed of, or lined with, materials that are compatible with the waste(s) to be placed in the waste system 2. Tank and piping systems used for high-level waste collection, pretreatment, treatment, and storage shall be welded construction, except where remote configurations or periodic rerouting of high-level waste streams require non-welded construction	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(c)	(c) Lifting Devices. The design of hoisting and rigging devices shall comply with the following specific requirements. 1. Lifting devices that are designated as safety class or safety significant shall be designed to prevent free fall of loads. 2. Loading and unloading systems for lifting devices that are designated as safety class or safety significant shall be designed with a reliable system of interlocks that will fail safely upon malfunction.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.P.(2).(d)	(d) Ventilation. 1. Design of high-level waste pretreatment, treatment, and storage facilities shall include ventilation through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the applicable requirements. 2. When conditions exist for generating gases in flammable and explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(e)	(e) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing high-level waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(f)	(f) Maintenance Exposure Reduction. Remote maintenance features and other appropriate techniques to maintain as low as reasonably achievable (ALARA) personnel exposures shall be incorporated into each high-level waste facility.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(g)	(g) Facilities for Receipt and Retrieval of High-Level Waste. 1. Designs for storage facilities shall incorporate features to facilitate retrieval capability. 2. High-level waste receipt and retrieval systems shall be designed to complement the existing storage facilities for safe storage and transfer of high-level waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS
FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.P.(2).(h)	(h) Structural Integrity. Designs for new tanks shall contribute to the confinement requirement at Section II.P.(2)(b) of this Manual by: 1. Incorporating features to avoid critical degradation modes at the proposed site where practicable, or minimize degradation rates for the critical modes; and 2. Incorporating features to facilitate execution of the Structural Integrity Program required by Section II.Q.(2) of this Manual.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(I)	(i) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of high-level waste treatment storage, pretreatment, and treatment facilities to provide volume inventory data and to prevent spills, leaks and overflows from tanks or confinement systems.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.P.(2).(j).	(j) Volume Monitoring Systems. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of high-level waste storage, pretreatment, and treatment facilities to provide rapid detection of failed confinement and/or other abnormal conditions.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.Q.	Q. Storage. The following requirements are in addition to those in Chapter I of this Manual and also apply to facilities intended for management of high-level waste awaiting pretreatment, treatment or disposal, unless stated otherwise.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.II.Q.(1).	(1) Operation of Confinement Systems. (a) Confinement systems shall be operated and maintained so as to preserve the design basis. (b) Secondary confinement systems, where provided, shall be operated to prevent any migration of wastes or accumulated liquid out of the waste confinement systems.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.Q.(2).	(2) Structural Integrity Program.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.Q.(2).(a).	(a) Leak-Tight Tanks In-Service. A structural integrity program shall be developed for each high-level waste storage tank site to verify the structural integrity and service life of each tank to meet operational requirements for storage capacity. The program shall be capable of: 1. Verifying the current leak-tightness and structural strength of each tank in service; 2. Identifying corrosion, fatigue, and other critical degradation modes; 3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures; 4. Providing credible projections as to when structural integrity of each tank can no longer be assured; and 5. Identifying the additional controls necessary to maintain an acceptable operating envelope.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.Q.(2).(b).	(b) In-Service Tanks that Have Leaked or Are Suspect. For each high-level waste storage tank in-service that is known to have leaked, or is suspect, a modified structural integrity program shall be developed and implemented to identify the safe operational envelope. The modified program shall be capable of: 1. Verifying the structural strength of each tank in-service which has leaked or is suspect; 2. Identifying corrosion, fatigue and other critical degradation modes; 3. Adjusting the chemistry of tank waste, calibrating cathodic protection systems, wherever employed, and implementing other necessary corrosion protection measures; 4. Determining which of the tanks that have leaked or are suspect may remain in service by identifying an acceptable safe operating envelope; 5. Providing credible projections as to when the acceptable safe operational envelope can no longer be assured; and 6. Identifying the additional controls necessary to maintain the acceptable safe operational envelope. When physical activities, as part of a structural integrity program, pose additional vulnerabilities, alternative measures shall be implemented to provide an acceptable storage operational envelope.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.Q.(2).(c).	(c) Other Storage Components. The structural integrity of other storage components shall be verified to assure leak tightness and structural strength.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.Q.(3).	(3) Canistered Waste Form Storage. Canisters of immobilized high-level waste awaiting shipment to a repository shall be: (a) Stored in a suitable facility; (b) Segregated and clearly identified to avoid commingling with low-level, mixed low-level, or transuranic wastes; and (c) Monitored to ensure that storage conditions are consistent with DOE/EM 0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351, Waste Acceptance System Requirements Document, for non-vitrified immobilized high-level waste. Facilities and operating procedures for storage of vitrified high-level waste shall maintain the integrity of the canistered waste form.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.R.	R. Treatment. Treatment shall be designed and implemented in a manner that will ultimately comply with DOE/EM 0093, Waste Acceptance Product Specifications for Vitrified High-level Waste Forms, or DOE/RW-0351P, Waste Acceptance System Requirements Document, for non-vitrified, immobilized high-level waste.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.S.	S. Disposal. Disposal of high-level waste must be in accordance with the provisions of the Atomic Energy Act of 1954, as amended, the Nuclear Waste Policy Act of 1982, as amended, or any other applicable statutes.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

RIVER CORRIDOR PROJECT FACILITIES (RCP) GAP ANALYSIS/COMPLIANCE STATUS FOR DOE ORDER 435.1 (MANUAL 435.1-1)

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.T.	T. Monitoring. High-level waste pretreatment, treatment, storage, and transportation facilities shall be monitored for chemical, physical, radiological, structural, and other changes that could indicate failure of system confinement, integrity, or safety, and which could lead to abnormal events or accidents. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, flammable or explosive mixtures of gases, level and/or waste volume, and significant waste chemistry parameters for non-immobilized high-level waste. Facility monitoring programs shall also include physical inspections to verify that control systems have not failed.	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.U.	U. Closure. The following requirements for closure of deactivated high-level waste facilities and sites are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.II.U.(1).	(1) Decommissioning. Deactivated high-level waste facilities/sites shall meet the decommissioning requirements of DOE O 430.1A, Life-Cycle Asset Management and the requirements of DOE 5400.5, Radiation Protection of the Public and the Environment, for release; or	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.U.(2).	(2) CERCLA Process. Deactivated high-level waste facilities/sites shall be closed in accordance with the CERCLA process as described in Section I.2.F.(5); or	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.II.U.(3).	(3) Closure. Deactivated high-level waste facilities/sites shall be closed in accordance with an approved closure plan as specified below. Residual radioactive waste present in facilities to be closed shall satisfy the waste incidental to reprocessing requirements of this Chapter.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.U.(3).(a).	(a) Facility/Site Closure Plans. A closure plan shall be developed for each deactivated high-level waste facility/site being closed that defines the approach and plans by which closure of each facility within the site is to be accomplished. This plan shall be completed and approved prior to the initiation of physical closure activities, and updated periodically to reflect current analysis and status of individual facility closure actions. The plan shall include, at a minimum, the following elements: 1. Identification of the closure standards/performance objectives to be applied from Chapter III or IV, as appropriate; 2. A strategy for allocating waste disposal facility performance objectives from the closure standards identified in the closure plan among the facilities/units to be closed at the site; 3. An assessment of the projected performance of each unit to be closed relative to the performance objectives allocated to each unit under the closure plan; 4. An assessment of the projected composite performance of all units to be closed at the site relative to the performance objectives and closure standards identified in the closure plan; and 5. Any other relevant closure controls including a monitoring plan, institutional controls, and land use limitations to be maintained in the closure activity.	RCP Facilities do not manage HLW	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.II.V.	V. Specific Operations. Specific requirements are provided for the operation of lifting devices and facilities for receipt and retrieval of high-level waste. (1) Operation of Lifting Devices. Hoisting and rigging activities shall be conducted in accordance with the guidance provided in the DOE Standard "Hoisting and Rigging" (DOE-STD-1090-96). (2) Operation of Facilities for Receipt and Retrieval of High-Level Waste. High-level waste receipt and retrieval systems shall be operated and maintained consistent with high-level waste system features incorporated in the facilities. Strategies for retrieval of waste shall be analyzed to ensure that structural and radiological impacts are consistent with the facility design basis._ (This page intentionally left blank.)_CHAPTER III	RCP Facilities do not manage HLW	NO / ALL FACILITIES
CH.III.	TRANSURANIC WASTE REQUIREMENTS	NO ACTION REQUIRED(definition) HNF-EP-0063 Rev 5 incorporates the 435 definition of TRU. Any facility that generates or stores TRU would have to meet the HNF-EP-0063 requirements, as they define the requirements for certification of TRU waste.	NO / ALL FACILITIES
CH.III.A.	A. Definition of Transuranic Waste. Transuranic waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for: (1) High-level radioactive waste; (2) Waste that the Secretary of Energy has determined, with the concurrence of the Administrator of the Environmental Protection Agency, does not need the degree of isolation required by the 40 CFR Part 191 disposal regulations; or (3) Waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61.	NO ACTION REQUIRED(definition) HNF-EP-0063 Rev 5 incorporates the 435 definition of TRU. Any facility that generates or stores TRU would have to meet the HNF-EP-0063 requirements, as they define the requirements for certification of TRU waste	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.B.	B. Management of Specific Wastes. The following provide for management of specific wastes as transuranic waste in accordance with the requirements in this Chapter: (1) Mixed Transuranic Waste. Transuranic waste determined to contain both a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, and a radioactive component subject to the Atomic Energy Act of 1954, as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual. (2) TSCA-Regulated Waste. Transuranic waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual. (3) Pre-1970 Transuranic Waste. Transuranic waste disposed of prior to implementation of the 1970 Atomic Energy Commission Immediate Action Directive regarding retrievable storage of transuranic waste is not subject to the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	.NO ACTION REQUIRED (but see below for individual requirements) The 435.1 language regarding co-regulation of radioactive waste under other statutes and regulations is not substantially different from that currently in effect under 5820.2A.	NO / ALL FACILITIES
CH.III.C.	C. Complex-Wide Transuranic Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	DOE-HQ ACTION	NO / ALL FACILITIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.D.	D. Radioactive Waste Management Basis. Transuranic waste facilities, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and the environment. The following specific waste management controls shall be part of the radioactive waste management basis: (1) Generators. The waste certification program. (2) Treatment Facilities. The waste acceptance requirements and the waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program. (4) Disposal Facilities. The performance assessment, disposal authorization statement, waste acceptance requirements, and monitoring plan.	RCP Facilities will need to develop its waste management basis documentation. The Waste Management Basis is a new requirement; there is no corollary in 5820.2A. As the 435.1 Guidance explains, most of the basis documents already exist, derived from existing 5820.2A requirements and other DOE orders. It will take a significant effort to package these documents, close any gaps identified, and issue the Waste Management Basis. The Waste Certification Program is not a new requirement. However, while RCP Facilities have the procedures and processes in place to certify waste, RCP facilities do not have a comprehensive "Waste Certification Plan." As a subset of the Waste Management Basis, RCP Facilities will need to document how the various pieces of their certification program fit together. In Some cases, gaps in the certification program may be identified.	YES / ALL FACILTIES
CH.III.E.	E. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving liquid transuranic waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of liquid contained in any one storage tank or treatment facility. Tanks or other facilities that are designated transuranic waste contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of liquid waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	This section invokes numerous new requirements (leak testing, inspections, functional tests, operations, procedures, training, records, etc.). All design and operation of the tanks and piping systems will have to be reviewed and evaluated against these requirements.	YES / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.F.	F. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	(1) RCP Facilities utilizes the Deficiency Tracking System (DTS) (HNF-PRO-653, Rev.1) and the Corrective Action Management System (HNF-PRO-052, Rev.2). These systems document non-compliant or hazardous conditions, identify the organizations or individuals responsible for developing and implementing corrective action plans, provide corrective action status, and track progress through final implementation of the actions. (2) Existing operation curtailment processes or programs should meet the requirements of 435.1. An evaluation of Hanford Site "Conduct of Operations" policies and procedures would be necessary to identify those programs which would be most suitable. RCP Facilities may need to modify or create OSRS or TSRs to identify non-compliance's with the approved radioactive waste management basis as a cause to stop work. This section also requires development of a "documented system of routine assessments" against the approved radioactive waste management basis.	(1) NO ALL FACILTIES (2) YES / ALL FACILTIES
CH.III.G.	G. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.G.(1).	(1) Technical and Administrative. Waste acceptance requirements for all transuranic waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following: (a) Allowable activities and/or concentrations of specific radionuclides; (b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal; (c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance; (d) Requirement to identify transuranic waste as defense or non-defense, and limitations on acceptance; and (e) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved.	RCP Facilities do not accept TRU waste from other facilities and, thus, do not need to develop acceptance requirements.	NO / ALL FACILTIES
CH.III.G.(2).	(2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.	RCP Facilities do not receive TRU waste from other facilities, so the requirement is not applicable.	NO / ALL FACILTIES
CH.III.H.	H. Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.III.H.(1).	(1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all transuranic waste streams.	RCP Facilities need to develop a process to obtain acceptance of a waste before generation.	YES / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.H.(2).	(2) Waste With No Identified Path to Disposal. Transuranic waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste.	RCP facilities do not have a documented and reliable process in place to ensure that no path forward waste is evaluated prior to generation. (TRU/PCB waste falls into this category and may need an exemption.)	YES / ALL FACILTIES
CH.III.I.	I. Waste Characterization. Transuranic waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste.	See below individual requirements	YES / ALL FACILITIES
CH.III.I.(1)	(1) Data Quality Objectives. The data quality objective process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides; (e) Characterization date; (f) Generating source; (g) Packaging date; and (h) Any other information which may be needed to prepare and maintain the disposal facility performance assessment or demonstrate compliance with applicable performance objectives.	1. Waste generators do not consistently use the Data Quality Objectives process or an equivalent process to plan characterization activities. The DQO process is not currently a requirement of 5820.2A and, as a result is not uniformly used by persons planning characterization. DQOs are often performed for large and complex characterization problems. It is much less common for DQOs (or anything remotely equivalent) to be performed on routine waste streams 2. This section requires more detailed documentation of characterization data than are commonly practiced, particularly for "indirect methods." 3. There are minor gaps in "minimum waste characterization" requirements.	YES / ALL FACILTIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.J.	J. Waste Certification. The waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving transuranic waste for storage, treatment, or disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for audibility, retrievability and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Transuranic waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste (3) Maintaining Certification. Transuranic waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	No gap for waste managed through the Hanford Site TRU WIPP Certification Program. 1. Facilities' waste certification programs generally do not incorporate all of the 435.1-certification program requirements, particularly as described in the Guidance. The following gaps may exist at RCP Facilities: • Identification of a specific certification official for each facility from which waste will be shipped. • Certification plans do not address all of the elements identified in the Guidance. In the case where waste is generated and stored internal to the generator a graded approach to waste certification will be applied. 2. RCP Facilities do not receive TRU waste from other facilities, so the requirement is not applicable. RCP Facilities will have to adjust its internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements. 3. DOE Order 5820.2A established general waste certification requirements. DOE O 435.1 uses the same general concept, but has more detailed requirements that have not necessarily been incorporated by Hanford site generators (i.e., RCP Facilities). In particular, it is uncommon for certification plans to formally identify certification officials, certification statements, record management requirements, and various other elements identified by the Order and associated Guidance.	YES / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.K.	K. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of transuranic waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. Transuranic waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for transuranic waste shall be transferred with or be traceable to the waste.	Transfers of solid TRU waste from RCP Facilities to CWC, T-Plant or WRAP: Acceptance process WebPages on Hanford Site Solid Waste Acceptance Program website outlines the acceptance process. TRU shipments to WMH TSD facilities are authorized by WMH-370, 1.7 procedure in which TSD rep notifies generator with approved receipt report, which authorizes the transfer. Data is collected through required input into SWITS database per WMH-370, Section 5.1. Required data is also collected in profile sheet and waste portfolio submittal. RCP Facilities PIN files also maintain some information beyond scope of what WMH TSD facility requires to acceptance determination. (i.e. rad survey report of container, container purchase specifications, etc). TRU waste is not transferred to RCP Facilities from other facilities. Movement of waste within RCP Facilities is not subject to this section of 435.1.	NO / ALL FACILITIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.L.	L. Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (1) Packaging. (a) Transuranic waste shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste is removed from the container. (b) Vents or other mechanisms to prevent pressurization of containers or generation of flammable or explosive concentrations of gases shall be installed on containers of newly generated waste at the time the waste is packaged. Containers of currently stored waste shall meet this requirement as soon as practical unless analyses demonstrate that the waste can otherwise be managed safely. (c) When transuranic waste is packaged, defense waste shall be packaged separately from non-defense waste, if feasible. (d) Containers of transuranic waste shall be marked such that their contents can be identified. (2) Transportation. To the extent practical, the volume of waste and number of transuranic waste shipments shall be minimized.	All TRU solid waste is packaged in accordance with HNF-EP-0063. HNF-EP-0063 captures these requirements, except for the requirement to segregate defense from non-defense TRU waste. 1.a) HNF-EP-0063 Appendix D 1.b) HNF-EP-0063 Appendix G 1.c) Not captured by HNF-EP-0063 Rev 5 1.d) HNF-EP-0063 Appendix C requires containers to be bar coded with CIN #. All data for the container is tracked in SWITS per the CIN #. Waste profile and waste portfolio information can be traced based on the information in SWITS. 2. HNF-EP-0063, Section 1.4.3 and the Hanford Site Waste Minimization and Pollution Prevention Awareness Program Plan (DOE/RL-91-31). Liquid TRU waste is currently shipped via pipeline to Double Shell Tanks. Should it be shipped via tanker trucks, it will meet requirements detailed in a SARP.	1a – NO / ALL FACILTIES 1b – NO / ALL FACILTIES 1c YES / ALL FACILTIES 1d – NO / ALL FACILTIES 2 - NO / ALL FACILTIES
CH.III.M.	M. Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.III.M.(1).	(1) Site Evaluation. Proposed locations for transuranic waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new transuranic waste facility or expansion of an existing transuranic waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities. (b) Proposed sites with environmental characteristics, geotechnical characteristics, and human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility.	Applicable to New or Modified Facilities Only RCP Facilities action would be required if TRU treatment or storage is expanded. RCP Facilities would need to modify design change procedures and processes to ensure the siting and facility requirements are addressed.	YES / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.M.(2).	(2) Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (a) Confinement. Transuranic waste systems and components shall be designed to maintain waste confinement. (b) Ventilation. 1. Design of transuranic waste treatment and storage facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations in treatment or storage facilities, ventilation or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation. (c) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing transuranic waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described. (d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of transuranic waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems. (e) Monitoring. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of transuranic waste storage, treatment, and disposal facilities to provide rapid identification of failed confinement and/or other abnormal conditions.	Applicable to existing, modified, and new facilities. RCP Facilities would need to conduct a design review of its TRU treatment and storage. RCP Facilities need to modify design change procedures and processes to ensure the facility design requirements are addressed.	YES / ALL FACILTIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.N.	N. Storage. The following requirements are in addition to those in Chapter I of this Manual. (1) Storage Prohibitions. Transuranic waste in storage shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable. (2) Storage Integrity. Transuranic waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure. (3) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of transuranic waste to ensure container integrity is not compromised. (4) Retrievable Earthen-Covered Storage. Plans for the removal of transuranic waste from retrievable earthen-covered storage facilities shall be established and maintained. Prior to commencing waste retrieval activities, each waste storage site shall be evaluated to determine relevant information on types, quantities, and location of radioactive and hazardous chemicals as necessary to protect workers during the retrieval process.	(1) RCP Facilities need to review and revise its procedures to ensure all waste that could be reactive per this section would meet the storage prohibitions of this section or preclude storage of prohibited waste. (SS&C waste is reactive, is being stored so as not to come in contact with water, and will be cemented to remove reactive property.) (2) RCP Facilities need to review and revise its procedures to ensure all wastes are stored per safety documents for expected duration of storage (3) RCP Facilities need to review and revise its procedures to ensure inspections address those container integrity items specified in the guidance document for all waste containers. (4) RCP Facilities may need to ensure the CERCLA process develops plans and procedures for TRU waste retrieval from Tanks.	YES / ALL FACILTIES
CH.III.O.	**O. Treatment. Transuranic waste shall be treated as necessary to meet the waste acceptance requirements of the facility receiving the waste for storage or disposal.**	**TRU waste shipped to Hanford TSD's for storage must meet HNF-EP-0063 waste acceptance criteria. TRU waste will be certified to meet the WIPP WAC before it gets shipped to WIPP.**	**NO / ALL FACILITIES**

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.III.P.	P. Disposal. Transuranic waste shall be disposed in accordance with the requirements of 40 CFR Part 191, Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities. However, if wastes were left in place in Tanks it would have to be evaluated against these requirements. DOE policy is to dispose of TRU waste at the WIPP Site. Therefore disposal requirements identified in this manual requirement apply to WIPP, not Hanford.	NO / ALL FACILITIES YES / ALL FACILITIES
CH.III.Q.	Q. Monitoring. The following requirements are in addition to those in Chapter I of this Manual. (1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed. (2) Stored Wastes. All transuranic wastes in storage shall be monitored, as prescribed by the appropriate facility safety analysis, to ensure the wastes are maintained in safe condition. (3) Liquid Waste Storage Facilities. For facilities storing liquid transuranic waste, the following shall also be monitored: liquid level and/or waste volume, and significant waste chemistry parameters	RCP Facilities do not monitor per minimum requirements. Parameters monitored in these facilities are identified in safety documents and data collection procedures. Need to justify why not monitoring for minimum parameters in III.Q or upgrade/expand systems.	YES / ALL FACILITIES
CH.IV.	LOW-LEVEL WASTE REQUIREMENTS	NO ACTION REQUIRED (but see below for individual requirements	NO / ALL FACILITIES
CH.IV.A.	A. Definition of Low-Level Waste. Low-level radioactive waste is radioactive waste that is not high-level radioactive waste, spent nuclear fuel, transuranic waste, byproduct material (as defined in section 11e.(2) of the Atomic Energy Act of 1954, as amended), or naturally occurring radioactive material.	NO ACTION REQUIRED (definition) The definition of low-level waste has not changed significantly from that currently provided by 5820.2A. The 435.1 definition does not significantly change the scope of wastes that are managed as low-level.	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.B	B. Management of Specific Wastes. The following provide for management of specific wastes as low-level waste in accordance with the requirements in this Chapter: (1) Mixed Low-Level Waste. Low-level waste determined to contain both source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended, and a hazardous component subject to the Resource Conservation and Recovery Act (RCRA), as amended, shall be managed in accordance with the requirements of RCRA and DOE O 435.1, Radioactive Waste Management, and this Manual. (2) TSCA-Regulated Waste. Low-level waste containing polychlorinated biphenyls, asbestos, or other such regulated toxic components shall be managed in accordance with requirements derived from the Toxic Substances Control Act, as amended, DOE O 435.1, Radioactive Waste Management, and this Manual. (3) Accelerator-Produced Waste. Radioactive waste produced as a result of operations of DOE accelerators is low-level waste and shall be managed in accordance with DOE O 435.1, Radioactive Waste Management, and this Manual, and all applicable Federal or State requirements. (4) 11e.(2) and Naturally Occurring Radioactive Material. Small quantities of 11e.(2) byproduct material and naturally occurring radioactive material may be managed as low-level waste provided they can be managed to meet the requirements for low-level waste disposal in Section IV.P of this Manual.	The 435.1 language regarding co-regulation of radioactive waste under other statutes and regulations is not substantially different from that currently in effect under 5820.2A.	NO / ALL FACILITIES
CH.IV.C	C. Complex-Wide Low-Level Waste Management Program. A complex-wide program and plan shall be developed as described under Responsibilities, 2.B and 2.D, in Chapter I of this Manual.	DOE-HQ ACTION	NO / All FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.D.	D. Radioactive Waste Management Basis. Low-Level waste facilties, operations, and activities shall have a radioactive waste management basis consisting of physical and administrative controls to ensure the protection of workers, the public, and environment. The following specific waste management controls shall be part of the radioactive waste management basis. (1) Generators. The waste certification program. (2) Treatment Facilities. The waste acceptance requirements and the waste certification program. (3) Storage Facilities. The waste acceptance requirements and the waste certification program. (4) Disposal Facilities. The performance assessment, composite analysis, disposal authorization statement, closure plan, waste acceptance requirements, and monitoring plan.	RCP Facilities will need to develop its waste management basis documentation. The Waste Management Basis is a new requirement; there is no corollary in 5820.2A. As the 435.1 Guidance explains, most of the basis documents already exist, derived from existing 5820.2A requirements and other DOE orders. It will take a significant effort to package these documents, close any gaps identified, and issue the Waste Management Basis. The Waste Certification Program is not a new requirement. However, while RCP Facilities have the procedures and processes in place to certify waste, RCP facilities do not have a comprehensive "Waste Certification Plan." As a subset of the Waste Management Basis, RCP Facilities will need to document how the various pieces of their certification program fit together. In some cases, gaps in the certification program may be identified.	YES / ALL FACILITIES
CH.IV.E.	E. Contingency Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Contingency Storage. For off-normal or emergency situations involving high activity or high hazard liquid low-level waste storage or treatment, spare capacity with adequate capabilities shall be maintained to receive the largest volume of liquid contained in any one storage tank or treatment facility. Tanks or other facilities that are designated low-level waste contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual. (2) Transfer Equipment. Pipelines and auxiliary facilities necessary for the transfer of high activity or high hazard liquid low-level waste to contingency storage shall be maintained in an operational condition when waste is present and shall meet the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual.	This section invokes numerous new requirements (leak testing, inspections, functional tests, operations, procedures, training, records, etc.). Note: Need to determine for each situation if Liquid is "high activity or high hazard" and if this requirement applies.	YES / ALL FACILTIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.F.	F. Corrective Actions. The following requirements are in addition to those in Chapter I of this Manual. (1) Order Compliance. Corrective actions shall be implemented whenever necessary to ensure the requirements of DOE O 435.1, Radioactive Waste Management, and this Manual are met. (2) Operations Curtailment. Operations shall be curtailed or facilities shut down for failure to establish, maintain, or operate consistent with an approved radioactive waste management basis.	(1) RCP Facilities utilize the Deficiency Tracking System (DTS) (HNF-PRO-653, Rev.1) and (1) the Corrective Action Management System (HNF-PRO-052, Rev.2). These systems document non-compliant or hazardous conditions, identify the organizations or individuals responsible for developing and implementing corrective action plans, provide corrective action status, and track progress through final implementation of the actions. (2) Existing operations curtailment processes or programs should meet the requirements of 435.1. An evaluation of Hanford Site "Conduct of Operations" policies and procedures would be necessary to identify those programs which would be most suitable. RCP Facilities may need to modify or create OSRS or TSRs to identify non-compliance's with the approved radioactive waste management basis as a cause to stop work. This section also requires development of a "documented system of routine assessments" against the approved radioactive waste management basis.	(1) NO / ALL FACILITIES (2) YES / ALL FACILITIES
CH.IV.G.	G. Waste Acceptance. The following requirements are in addition to those in Chapter I of this Manual:	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.IV.G.(1).	(1) Technical and Administrative. Waste acceptance requirements for all low-level waste storage, treatment, or disposal facilities, operations, and activities shall specify, at a minimum, the following:	NO ACTION REQUIRED (but see below for individual requirements)	NO / ALL FACILITIES
CH.IV.G.(1).(a)	(a) Allowable activities and/or concentrations of specific radionuclides.	Applicable to LLW TSD Facilities. RCP Facilities do not accept LLW from other facilities. RCP Facilities may have to adjust its internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements.	YES / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.G.(1).(b)	(b) Acceptable waste form and/or container requirements that ensure the chemical and physical stability of waste under conditions that might be encountered during transportation, storage, treatment, or disposal.	**Applicable to LLW TSD Facilities.** **RCP Facilities do not accept LLW from other facilities.** RCP Facilities may have to adjust internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements.	YES / ALL FACILITIES
CH.IV.G.(1).(c)	(c) Restrictions or prohibitions on waste, materials, or containers that may adversely affect waste handlers or compromise facility or waste container performance.	**Applicable to LLW TSD Facilities.** **RCP Facilities do not accept LLW form other facilities** RCP Facilities may have to adjust its internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements.	YES / ALL FACILITIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.G.(1).(d)	(d) The following are additional waste acceptance requirements that shall be specified in low-level waste disposal facility waste acceptance requirements: 1. Low-level waste must contribute to and not detract from achieving long-term stability of the facility, minimizing the need for long-term active maintenance, minimizing subsidence, and minimizing contact of water with waste. Void spaces within the waste and, if containers are used, between the waste and its container shall be reduced to the extent practical. 2. Liquid low-level waste or low-level waste containing free liquid must be converted into a form that contains as little freestanding liquid as is reasonably achievable, but in no case shall the liquid exceed 1 percent of the waste volume when the low-level waste is in a disposal container, or 0.5 percent of the waste volume after it is processed to a stable form. 3. Low-level waste must not be readily capable of detonation or of explosive decomposition or reaction at anticipated pressures and temperatures, or of explosive reaction with water. Pyrophoric materials contained in waste shall be treated, prepared, and packaged to be nonflammable. 4. Low-level waste must not contain, or be capable of generating by radiolysis or biodegradation, quantities of toxic gases, vapors, or fumes harmful to the public or workers or disposal facility personnel, or harmful to the long-term structural stability of the disposal site. 5. Low-level waste in a gaseous form must be packaged such that the pressure does not exceed 1.5 atmospheres absolute at 20°C.	**Applicable to LLW Disposal Facilities** **RCP Facilities do not accept LLW from other facilities.** **RCP Facilities are not LLW Disposal Facilities** RCP Facilities may have to adjust internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements.	YES / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.G.1.(e)	(e) The basis, procedures, and levels of authority required for granting exceptions to the waste acceptance requirements, which shall be contained in each facility's waste acceptance documentation. Each exception request shall be documented, including its disposition as approved or not approved.	**Applicable to LLW TSD Facilities.** **RCP Facilities do not accept LLW from other facilities.** RCP Facilities will have to adjust internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements.	YES / ALL FACILITIES
CH.IV.G. (2)	**(2) Evaluation and Acceptance. The receiving facility shall evaluate waste for acceptance, including confirmation that the technical and administrative requirements have been met. A process for the disposition of non-conforming wastes shall be established.**	**Applicable to LLW TSD Facilities.** **RCP Facilities do not accept LLW from other facilities.**	**NO / ALL FACILTIES**
CH.IV.H.	H. Waste Generation Planning. The following requirements are in addition to those in Chapter I of this Manual. (1) Life-Cycle Planning. Prior to waste generation, planning shall be performed to address the entire life cycle for all low-level waste streams. (2) Waste With No Identified Path to Disposal. Low-level waste streams with no identified path to disposal shall be generated only in accordance with approved conditions which, at a minimum, shall address: (a) Programmatic need to generate the waste; (b) Characteristics and issues preventing the disposal of the waste; (c) Safe storage of the waste until disposal can be achieved; and (d) Activities and plans for achieving final disposal of the waste.	(1) RCP Facilities need to develop a process to obtain acceptance of a waste before generation. (2) RCP facilities do not have a documented and reliable process in place to ensure that no path forward waste is evaluated prior to generation. (LLW/PCB waste falls into this category and may need an exemption.)	YES / ALL FACILTIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.I.	I. Waste Characterization. Low-level waste shall be characterized using direct or indirect methods, and the characterization documented in sufficient detail to ensure safe management and compliance with the waste acceptance requirements of the facility receiving the waste. (1) Data Quality Objectives. The data quality objectives process, or a comparable process, shall be used for identifying characterization parameters and acceptable uncertainty in characterization data. (2) Minimum Waste Characterization. Characterization data shall, at a minimum, include the following information relevant to the management of the waste: (a) Physical and chemical characteristics; (b) Volume, including the waste and any stabilization or absorbent media; (c) Weight of the container and contents; (d) Identities, activities, and concentrations of major radionuclides; (e) Characterization date; (f) Generating source; and (g) Any other information which may be needed to prepare and maintain the disposal facility performance assessment, or demonstrate compliance with applicable performance objectives.	1. This section requires more detailed documentation of characterization data than are commonly practiced, particularly for "indirect methods". 2. Waste generators do not consistently use the Data Quality Objectives process or an equivalent process to plan characterization activities. 3. There are minor gaps in "minimum waste characterization" requirements	YES / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.J.	J. Waste Certification. A waste certification program shall be developed, documented, and implemented to ensure that the waste acceptance requirements of facilities receiving low-level waste for storage, treatment, and disposal are met. (1) Certification Program. The waste certification program shall designate the officials who have the authority to certify and release waste for shipment; and specify what documentation is required for waste generation, characterization, shipment, and certification. The program shall provide requirements for audibility, retrievability, and storage of required documentation and specify the records retention period. (2) Certification Before Transfer. Low-level waste shall be certified as meeting waste acceptance requirements before it is transferred to the facility receiving the waste. (3) Maintaining Certification. Low-level waste that has been certified as meeting the waste acceptance requirements for transfer to a storage, treatment, or disposal facility shall be managed in a manner that maintains its certification status.	Facilities' waste certification programs generally do not incorporate all of the 435.1-certification program requirements, particularly as described in the Guidance. The following gaps exist at some or all Hanford waste generating organizations: • Identification of a specific certification official for each facility from which waste will be shipped. • Certification plans do not address all of the elements identified in the Guidance. In the case where waste is generated and stored internal to the generator RCP Facilities, a graded approach to waste certification will be applied. RCP Facilities will have to adjust its internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements.	YES / ALL FACILTIES

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CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.K.	K. Waste Transfer. A documented process shall be established and implemented for transferring responsibility for management of low-level waste and for ensuring availability of relevant data. The following requirements are in addition to those in Chapter I of this Manual. (1) Authorization. Low-level waste shall not be transferred to a storage, treatment, or disposal facility until personnel responsible for the facility receiving the waste authorize the transfer. (2) Data. Waste characterization data, container information, and generation, storage, treatment, and transportation information for low-level waste shall be transferred with or be traceable to the waste.	**Transfers from RCP Facilities to LLBG CWC, T-Plant or WRAP: Acceptance process WebPages on Hanford Site Solid Waste Acceptance Program website outlines the acceptance process.** **LLW shipments to RCP Facilities are not authorized.** **Data is collected through required input into SWITS database per WMH-370, Section 5.1. Required data is also collected in profile sheet and waste portfolio submittal.** RCP Facilities files also maintain some information beyond scope of what WMH TSD facility requires to acceptance determination. (i.e. rad survey report of container, container purchase specifications, etc). Movement of waste within RCP Facilities are not subject to this section of 435.1. RCP Facilities will have to adjust internal procedures if external storage and disposal facilities modify their waste acceptance criteria to accommodate these requirements	YES / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.L.	L. Packaging and Transportation. The following requirements are in addition to those in Chapter I of this Manual. (1) Packaging. If containers are used: (a) Low-level waste shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste has been removed from the container. (b) When waste is packaged, vents or other measures shall be provided if the potential exists for pressurizing or generating flammable or explosive concentrations of gases within the waste container. (c) Containers of low-level waste shall be marked such that their contents can be identified. (2) Transportation. To the extent practical, the volume of waste and number of low-level waste shipments shall be minimized.	1. For waste to be shipped to LLBG, CWC, WRAP or T-Plant, HNF-EP-0063 requirements specify the packaging required, including venting and labeling requirements to address L(1). 2. No program in place to minimize number of shipments	(1) NO / ALL FACILITIES (2) YES / ALL FACILITIES
CH.IV.M.	M. Site Evaluation and Facility Design. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.M.(1).	(1) Site Evaluation. Proposed locations for low-level waste facilities shall be evaluated to identify relevant features that should be avoided or must be considered in facility design and analyses. (a) Each site proposed for a new low-level waste facility or expansion of an existing low-level waste facility shall be evaluated considering environmental characteristics, geotechnical characteristics, and human activities, including for a low-level waste disposal facility, the capability of the site to demonstrate, at a minimum, whether it is: 1. Located to accommodate the projected volume of waste to be received; 2. Located in a flood plain, a tectonically active area, or in the zone of water table fluctuation; and 3. Located where radionuclide migration pathways are predictable and erosion and surface runoff can be controlled. (b) Proposed sites with environmental characteristics, geotechnical characteristics, and human activities for which adequate protection cannot be provided through facility design shall be deemed unsuitable for the location of the facility. (c) Low-level waste disposal facilities shall be sited to achieve long-term stability and to minimize, to the extent practical, the need for active maintenance following final closure.	Applicable to New or Modified Facilities Only	NO / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.M.(2).	(2) Low-Level Waste Treatment and Storage Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (a) Confinement. Low-level waste systems and components shall be designed to maintain waste confinement. (b) Ventilation. 1. Design of low-level waste treatment and storage facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation. (c) Consideration of Decontamination and Decommissioning. Areas in new and modifications to existing low-level waste management facilities that are subject to contamination with radioactive or other hazardous materials shall be designed to facilitate decontamination. For such facilities a proposed decommissioning method or a conversion method leading to reuse shall be described. (d) Instrumentation and Control Systems. Engineering controls shall be incorporated in the design and engineering of low-level waste treatment and storage facilities to provide volume inventory data and to prevent spills, leaks, and overflows from tanks or confinement systems. (e) Monitoring. Monitoring and/or leak detection capabilities shall be incorporated in the design and engineering of low-level waste treatment and storage facilities to provide rapid identification of failed confinement and/or other abnormal conditions.	Applicable to New or Modified Facilities Only	NO / ALL FACILTIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.M.(3)	(3) Low-Level Waste Disposal Facility Design. The following facility requirements and general design criteria, at a minimum, apply: (a) Confinement. Low-level waste systems and components shall be designed to maintain waste confinement. (b) Ventilation. 1. Design of low-level waste disposal facilities shall include ventilation, if applicable, through an appropriate filtration system to maintain the release of radioactive material in airborne effluents within the requirements and guidelines specified in applicable requirements. 2. When conditions exist for generating gases in flammable or explosive concentrations, ventilation systems or other measures shall be provided to keep the gases in a non-flammable and non-explosive condition. Where concentrations of explosive or flammable gases are expected to approach the lower flammability limit, measures shall be taken to prevent deflagration or detonation. (c) Stability. Low-level waste disposal facilities shall be designed to achieve long-term stability and to minimize to the extent practical, the need for active maintenance following final closure. (d) Control of Water. Low-level waste disposal facilities shall be designed to minimize to the extent practical, the contact of waste with water during and after disposal.	NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.N.	N. Storage and Staging. The following requirements are in addition to those in Chapter I of this Manual.	NO ACTION REQUIRED (but see below for individual requirements	NO / ALL FACILITIES
CH.IV.N.(1).	(1) Storage Prohibitions. Low-level waste in storage shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable.	RCP Facilities need to review and revise procedures to ensure all waste that could be reactive per this section would meet the storage prohibitions of this section or preclude storage of prohibited waste.	YES / ALL FACILTIES

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CH.IV.N.(2).	(2) Storage Limit. Low-level waste that has an identified path to disposal shall not be stored longer than one year prior to disposal, except for storage for decay, or as otherwise authorized by the Field Element Manager.	Need to revise procedures to include 1-year time limit.	YES / ALL FACILTIES
CH.IV.N.(3).	(3) Storage Integrity. Low-level waste shall be stored in a location and manner that protects the integrity of waste for the expected time of storage and minimizes worker exposure.	RCP Facilities need to review and revise safety documents and procedures to ensure all wastes are stored for expected duration of storage.	YES / ALL FACILTIES
CH.IV.N.(4).	(4) Waste Characterization for Storage. (a) Low-level waste that does not have an identified path to disposal shall be characterized as necessary to meet the data quality objectives and minimum characterization requirements of this Chapter, to ensure safe storage, and to facilitate disposal. (b) Characterization information for all low-level waste in storage shall be maintained as a record in accordance with the requirements for Records Management in Chapter I of this Manual.	(a) Currently, waste without an identified path forward may not have been sufficiently characterized to meet DQO requirements (yet to be developed). RCP Facilities need to review and revise procedures to ensure waste is characterized using DQO as required by this provision. (b) RCP Facilities need to review and revise procedures to ensure the records are retained and controlled as required by this provision.	YES / ALL FACILTIES
CH.IV.N.(5).	(5) Container Inspection. A process shall be developed and implemented for inspecting and maintaining containers of low-level waste to ensure container integrity is not compromised.	RCP Facilities need to review and revise procedures to ensure inspections address those container integrity items specified in the guidance document for all waste containers.	YES / ALL FACILTIES
CH.IV.N.(6).	(6) Storage Management. Low-level waste storage shall be managed to identify and segregate low-level waste from mixed low-level waste.	Commingling of mixed and low level waste in waste tanks may occur. Low level and mixed are not currently segregated per guide. Waste categories (types) may be segregated with a three-foot separation; however current procedures do not require physical separation as it is not a compatibility issue. The segregation may or may not include any rope, tape and /or labels identifying the low-level waste. Procedures and controls need to be put in place.	YES / ALL FACILITIES
CH.IV.N.(7).	(7) Staging. Staging of low-level waste shall be for the purpose of the accumulation of such quantities of waste as necessary to facilitate transportation, treatment, and disposal. Staging longer than 90 days shall meet the requirements for storage above and in Chapter I of this Manual.	<90 day staging conditions are not contained in current facility procedures. Existing inventories that exceed the 90 day staging restriction need to be transferred to storage facilities or a waiver obtained.	YES / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.O.	O. Treatment. Low-level waste treatment to provide more stable waste forms and to improve the long-term performance of a low-level waste disposal facility shall be implemented as necessary to meet the performance objectives of the disposal facility.	Current Waste Acceptance Criteria of HNF-EP-0063, as well as the Performance Assessment, establish acceptable waste treatment standards for disposal facilities. RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.	P. Disposal. Low-level waste disposal facilities shall meet the following requirements.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(1).	(1) Performance Objectives. Low-level waste disposal facilities shall be sited, designed, operated, maintained, and closed so that a reasonable expectation exists that the following performance objectives will be met for waste disposed of after September 26, 1988: (a) Dose to representative members of the public shall not exceed 25 mrem (0.25 mSv) in a year total effective dose equivalent from all exposure pathways, excluding the dose from radon and its progeny in air. (b) Dose to representative members of the public via the air pathway shall not exceed 10 mrem (0.10 mSv) in a year total effective dose equivalent, excluding the dose from radon and its progeny. (c) Release of radon shall be less than an average flux of 20 pCi/m2/s (0.74 Bq/m2/s) at the surface of the disposal facility. Alternatively, a limit of 0.5 pCi/l (0.0185 Bq/l) of air may be applied at the boundary of the facility.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).	(2) Performance Assessment. A site-specific radiological performance assessment shall be prepared and maintained for DOE low-level waste disposed of after September 26, 1988. The performance assessment shall include calculations for a 1,000 year period after closure of potential doses to representative future members of the public and potential releases from the facility to provide a reasonable expectation that the performance objectives identified in this Chapter are not exceeded as a result of operation and closure of the facility.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.P.(2).(a).	(a) Analyses performed to demonstrate compliance with the performance objectives in this Chapter, and to establish limits on concentrations of radionuclides for disposal based on the performance measures for inadvertent intruders in this Chapter shall be based on reasonable activities in the critical group of exposed individuals. Unless otherwise specified, the assumption of average living habits and exposure conditions in representative critical groups of individuals projected to receive the highest doses is appropriate. The likelihood of inadvertent intruder scenarios may be considered in interpreting the results of the analyses and establishing radionuclide concentrations, if adequate justification is provided.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).(b).	(b) The point of compliance shall correspond to the point of highest projected dose or concentration beyond a 100 meter buffer zone surrounding the disposed waste. A larger or smaller buffer zone may be used if adequate justification is provided.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).(c).	(c) Performance assessments shall address reasonably foreseeable natural processes that might disrupt barriers against release and transport of radioactive materials.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).(d).	(d) Performance assessments shall use DOE-approved dose coefficients (dose conversion factors) for internal and external exposure of reference adults.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).(e).	(e) The performance assessment shall include a sensitivity/uncertainty analysis.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).(f).	(f) Performance assessments shall include a demonstration that projected releases of radionuclides to the environment shall be maintained as low as reasonably achievable (ALARA).	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(2).(g).	(g) For purposes of establishing limits on radionuclides that may be disposed of near surface, the performance assessment shall include an assessment of impacts to water resources.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

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CH.IV.P.2.(h).	(h) For purposes of establishing limits on the concentration of radionuclides that may be disposed of near-surface, the performance assessment shall include an assessment of impacts calculated for a hypothetical person assumed to inadvertently intrude for a temporary period into the low-level waste disposal facility. For intruder analyses, institutional controls shall be assumed to be effective in deterring intrusion for at least 100 years following closure. The intruder analyses shall use performance measures for chronic and acute exposure scenarios, respectively, of 100 mrem (1 mSv) in a year and 500 mrem (5 mSv) total effective dose equivalent excluding radon in air.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(3).	(3) Composite Analysis. For disposal facilities which received waste after September 26, 1988, a site-specific radiological composite analysis shall be prepared and maintained that accounts for all sources of radioactive material that may be left at the DOE site and may interact with the low-level waste disposal facility, contributing to the dose projected to a hypothetical member of the public from the existing or future disposal facilities. Performance measures shall be consistent with DOE requirements for protection of the public and environment and evaluated for a 1,000 year period following disposal facility closure. The composite analysis results shall be used for planning, radiation protection activities, and future use commitments to minimize the likelihood that current low-level waste disposal activities will result in the need for future corrective or remedial actions to adequately protect the public and the environment.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.P.(4).	(4) Performance Assessment and Composite Analysis Maintenance. The performance assessment and composite analysis shall be maintained to evaluate changes that could affect the performance, design, and operating bases for the facility. Performance assessment and composite analysis maintenance shall include the conduct of research, field studies, and monitoring needed to address uncertainties or gaps in existing data. The performance assessment shall be updated to support the final facility closure. Additional iterations of the performance assessment and composite analysis shall be conducted as necessary during the post-closure period. (a) Performance assessments and composite analyses shall be reviewed and revised when changes in waste forms or containers, radionuclide inventories, facility design and operations, closure concepts, or the improved understanding of the performance of the waste disposal facility in combination with the features of the site on which it is located alter the conclusions or the conceptual model(s) of the existing performance assessment or composite analysis. (b) A determination of the continued adequacy of the performance assessment and composite analysis shall be made on an annual basis, and shall consider the results of data collection and analysis from research, field studies, and monitoring. (c) Annual summaries of low-level waste disposal operations shall be prepared with respect to the conclusions and recommendations of the performance assessment and composite analysis and a determination of the need to revise the performance assessment or composite analysis.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.P.(5).	(5) Disposal Authorization. A disposal authorization statement shall be obtained prior to construction of a new low-level waste disposal facility. Field Elements with existing low-level waste disposal facilities shall obtain a disposal authorization statement in accordance with the schedule in the Complex-Wide Low-Level Waste Management Program Plan. The disposal authorization statement shall be issued based on a review of the facility's performance assessment, composite analysis, performance assessment and composite analysis maintenance, preliminary closure plan, and preliminary monitoring plan. The disposal authorization statement shall specify the limits and conditions on construction, design, operations, and closure of the low-level waste facility based on these reviews. A disposal authorization statement is a part of the radioactive waste management basis for a disposal facility. Failure to obtain a disposal authorization statement by the implementation date of this Order shall result in shutdown of the disposal facility.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.P.(6).	(6) Disposal Facility Operations. The disposal facility design and operation must be consistent with the disposal facility closure plan and lead to disposal facility closure that provides a reasonable expectation that performance objectives will be met. Low-level waste shall be disposed in such a manner that achieves the performance objectives stated in this Chapter, consistent with the disposal facility radiological performance assessment. Additional requirements include: (a) Operating procedures shall be developed and implemented for low-level waste disposal facilities that protect the public, workers, and the environment; ensure the security of the facility; minimize subsidence during and after waste emplacement; achieve long-term stability and minimize the need for long-term active maintenance; and meet the requirements of the closure/post-closure plan. (b) Permanent identification markers for disposal excavations and monitoring wells shall be emplaced. (c) Low-level waste placement into disposal units shall minimize voids between waste containers. Voids within disposal units shall be filled to the extent practical. Uncontainerized bulk waste shall also be placed in a manner that minimizes voids and subsidence. (d) Operations are to be conducted so that active waste disposal operations will not have an adverse effect on any other disposal units. (e) Operations shall include a process for tracking and documenting low-level waste placement in the facility by generator source.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES
CH.IV.P.(7).	(7) Alternate Requirements for Low-Level Waste Disposal Facility Design and Operation. Requirements other than those set forth in this Section for the design and operation of a low-level waste disposal facility may be approved on a specific basis if a reasonable expectation is demonstrated that the disposal performance objectives will be met.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.Q.	Q. Closure. The following requirements are in addition to those in Chapter I of this Manual. (1) Disposal Facility Closure Plans. A preliminary closure plan shall be developed and submitted to Headquarters for review with the performance assessment and composite analysis. The closure plan shall be updated following issuance of the disposal authorization statement to incorporate conditions specified in the disposal authorization statement. Closure plans shall: (a) Be updated as required during the operational life of the facility. (b) Include a description of how the disposal facility will be closed to achieve long-term stability and minimize the need for active maintenance following closure and to ensure compliance with the requirements of DOE 5400.5, Radiation Protection of the Public and the Environment. (c) Include the total expected inventory of wastes to be disposed of at the facility over the operational life of the facility. (2) Disposal Facility Closure. Closure of a disposal facility shall occur within a five-year period after it is filled to capacity, or after the facility is otherwise determined to be no longer needed. (a) Prior to facility closure, the final inventory of the low-level waste disposed in the facility shall be prepared and incorporated in the performance assessment and composite analysis, which shall be updated to support the closure of the facility. (b) A final closure plan shall be prepared based on the final inventory of waste disposed in the facility, the plan implemented, and the updated performance assessment and composite analysis prepared in support of the facility closure. (c) Institutional control measures shall be integrated into land use and stewardship plans and programs, and shall continue until the facility can be released pursuant to DOE 5400.5, Radiation Protection of the Public and the Environment. (d) The location and use of the facility shall be filed with the local authorities responsible for land use and zoning.	Applicable to disposal facilities only NO ACTION REQUIRED – RCP Facilities are not disposal facilities	NO / ALL FACILITIES

CITATION	435.1-1 MANUAL REQUIREMENTS	BASIS	GAP?
CH.IV.R.	R. Monitoring. The following requirements are in addition to those in Chapter I of this Manual. (1) All Waste Facilities. Parameters that shall be sampled or monitored, at a minimum, include: temperature, pressure (for closed systems), radioactivity in ventilation exhaust and liquid effluent streams, and flammable or explosive mixtures of gases. Facility monitoring programs shall include verification that passive and active control systems have not failed. (2) Liquid Waste Storage Facilities. For facilities storing liquid low-level waste, the following shall also be monitored: liquid level and/or waste volume, and significant waste chemistry parameters. (3) **Disposal Facilities. A preliminary monitoring plan for a low-level waste disposal facility shall be prepared and submitted to Headquarters for review with the performance assessment and composite analysis. The monitoring plan shall be updated within one year following issuance of the disposal authorization statement to incorporate and implement conditions specified in the disposal authorization statement. (a) The site-specific performance assessment and composite analysis shall be used to determine the media, locations, radionuclides, and other substances to be monitored. (b) The environmental monitoring program shall be designed to include measuring and evaluating releases, migration of radionuclides, disposal unit subsidence, and changes in disposal facility and disposal site parameters which may affect long-term performance. (c) The environmental monitoring programs shall be capable of detecting changing trends in performance to allow application of any necessary corrective action prior to exceeding the performance objectives in this Chapter.**	(1) and (2): RCP Facilities waste is not monitored per the specified minimum requirements. Parameters monitored are identified per safety documents and data collection procedures. Variances from required monitoring will need to be justified or monitoring activities will need to be expanded/upgraded. **(3) RCP Facilities are not disposal facilities.**	(1) YES / ALL FACILTIES / / (2) YES / ALL FACILTIES **(3) NO / ALL FACILITIES**

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